

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 726.—Vol. XIX.]

LONDON, SATURDAY, JULY 21, 1849.

[PRICE 6D.]

TO SMELTERS, MINE CAPTAINS, BUILDERS, FOUNDEES, &c.
MESSRS. GILL & VIGERS are honoured with instructions from the proprietor to SELL, BY AUCTION, without reserve, at Mr. Joll's Quay, New Passage, on Wednesday, the 24th of July, 1849, at One o'clock precisely,
TWENTY-ONE THOUSAND FIRE BRICKS,
of superior quality, in lots of 1000 and upwards.—For further particulars apply to Gill and Vigers, auctioneers, surveyors, land agents, &c., 15, George-street, Plymouth (facing the Royal Hotel), and at West-street, Tavistock.

TO ENGINEERS, MACHINISTS, AND OTHERS.
SALE at 36, Broad-street, Birmingham (opposite the British Association Building).
MR. GIMBLETT will SELL, BY AUCTION, on Monday and Tuesday, the 20th and 21st days of July inst., on the premises, as above, the whole of the valuable **MACHINERY, STEAM-ENGINES, WORKING TOOLS, &c.**, belonging to Mr. Thomas Craddock—consisting of
THREE SUPERIOR HIGH-PRESSURE STEAM-ENGINES, of 4-horse power each.
ONE HIGH AND LOW-PRESSURE ENGINE, of 25-horse power.
A valuable high-pressure condensing and expansive LOCOMOTIVE ENGINE, of 10-horse power; 1 40-horse power, and 1 20-horse power ENGINES, nearly finished; an expansive ENGINE, of 16-horse power; 2 AIR-PUMPS, for a 16-horse engine; 2 condensors, 2 tubular boilers, valuable self-acting PLANING MACHINE, by Whitworth and Co., to plane 4 feet in length, and 2 feet 6 inches in width; self-acting DRILLING MACHINE, pair of oscillating MARINE ENGINES, of 10-horse power; 4 valuable and superior self-acting screw-cutting BED LATHES, of various dimensions, with change wheels, overhead motion and gearing; useful bar lathe and trace lathe, 3 feet diameter, vices and benches, bending apparatus, stock and dies, casting moulds, useful pattern-maker's lathe, tools, and patterns. Also the office fixtures, factory clock, and other effects—particulars of which will appear in the catalogue.
Sale to commence at Ten o'clock.

AT CLARRO' AND WELHAM, NEAR RETFORD, ON THE MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE RAILWAY.
TO RAILWAY CONTRACTORS, BUILDERS, FARMERS, AND ENGINEERS.
MR. G. O. BROWN begs to announce, that he has received instructions from Messrs. Waring and Sons, TO SELL, BY AUCTION, at the Clarron Tunnel, and Welham, near Retford, on Monday and Tuesday, July the 30th and 31st, and Wednesday, the 1st August, 1849, and following days, the whole of their
EXTENSIVE AND VALUABLE STOCK OF RAILWAY PLANT AND ENGINES,

viz.—One 6-wheeled locomotive engine and tender, coupled on four leading wheels, in excellent working condition. One 4-wheeled coupled locomotive engine and tender, in excellent working condition. One 10-horse power, high-pressure, horizontal engine, 12-inch cylinder, 23-inch stroke, with cylinder boiler 21 feet long, and 3 feet diameter. One 8-horse power, high-pressure, horizontal engine, 9-inch cylinder, 20-inch stroke, cylinder boiler 17 feet long, and 3 feet diameter. One 10-horse power, high-pressure, horizontal engine, 12-inch cylinder, 23-inch stroke, cylinder boiler 21 feet long, and 3 feet diameter. One 18-horse power, high-pressure, horizontal engine, 20-inch cylinder, with cylinder boiler 31 feet long, 4 feet diameter, with iron drums for working an incline, shafts to drive a clay and mortar mill. A double acting mortar mill, with four stones 5 feet diameter, and metal pans 7 feet diameter. The above engines are all nearly new, and in excellent working condition. An excellent clay mill, and pug mill, driven by machinery worked by horse-power. All the bricks, timber, tiles, &c. comprised in the engine houses, boiler settings, and stacks. In the brick yard at the tunnel,
THREE HUNDRED THOUSAND NEW BRICKS,
And the whole of the MATERIALS comprised in the BRICK SHEDS and KILNS adjoining; also the whole of the MATERIALS comprised in TEN WORKMEN'S COTTAGES, AND THIRTY THOUSAND OLD BRICKS, AND FIVE THOUSAND PAN TILES.

At the Welham Yard and Wharf.
About 1000 feet of oak, ash, and elm timber, 3000 feet of memel and red pine timber, 6000 temporary sleepers, 16,000 feet of 3-inch by 9-inch and 2-inch by 11-inch deals, 21,000 feet of 2-inch by 7-inch battens, a quantity of oak spokes, timber ends, boards, &c. which have been used at the tunnel, and other parts of the railway; 3 double and 3 single purchase crabs, 10 sets of two and three sheave blocks, with ropes and chains complete; 2 metal pumps, 1 lead pump, and 2 large water tanks, 3000 feet of 4-inch incline chain, 450 feet of 5-16th chain, and about a ton of different size block chain, a quantity of flat and round rope, 4 pig mills, 20 brick tables, 26 brick barrows, 60 brick moulds, 250 navvies' barrows, 3 single mortar mills with metal pans, 1 double ditto with two stones 5 feet diameter, pan 6 feet diameter; 35 three wheeled carts, 15 shaft carts for one or two horses; 4 timber carriages, 1 6-inch and two 3-inch wheeled waggons, 4 metal fans, and 4 wood chutes for ventilating mines; 3 screw presses for straightening rails, and 600 feet of 11-inch metal pipe; 3 pile engines complete, a large quantity of frigate and culvert centres, 30 iron feet of 5-16th chain, 9 sets of 6 lead lines, 10 coils of pick, 1 metal and 3 wood turn tables, 5 feet diameter, 1500 new iron bricks, a quantity of lamp cotton, 1000 gallons of camphine, 1000 gallons of naphtha, 42 cwt. of anti-friction grease, 10 cwt. of engine grease, about 100 gallons of seed and whole oil. The whole of the materials, comprising bricks, timber, and tiles, &c., contained in the stables, carpenters, and smiths' shops at the Welham yard, also the whole of the building materials in the smiths' shop at the river side, near the station, 13 complete sets of smiths' tools—namely: 13 pairs of patent bellows, 13 anvils, 13 pairs of vices, 9 sets of screw stocks, taps and dies complete, with hammers, swages, and all the necessary tools; a quantity of scrap iron and metal, an excellent road weighing machine up to 10 tons, and 3 portable diggers; 90 sets of harness, 6 cutting boxes, 2 bean splitters, and 2 oat crushers, 1 very superior dog cart, in good condition, 1 second-hand gig.
The sale on Monday and Tuesday will comprise the TIMBER and other MATERIALS at the Welham Yard and Wharf. On Wednesday the HARNESS will be sold at the Welham Yard, and the ENGINES, BRICKS, and COTTAGES, at the Tunnel.
The Sale each day to commence at Ten o'clock precisely.
Messrs. J. & W. G. B. 1849.

WEST OF SCOTLAND MALLEABLE IRON-WORKS,
AND LANDS OF BRAIDHIRST AND MILTON.
TO BE SOLD, BY PUBLIC AUCTION, within the Royal Exchange Sale Rooms, on Wednesday, the 29th day of August, 1849, at One o'clock in the afternoon,
MALLEABLE IRON-WORKS.
These large WORKS, belonging to the West of Scotland Malleable Iron Company, situated at MOTHERWELL, in the parish of Dalziel, and county of Lanark, consisting of REFINERY FIRES, FORGE, ROLLING, SLITTING, HOOP, FLATE, and SHEET MILLS;
And, with a little further outlay, capable of producing about 600 tons finished iron weekly. These works, which have been erected on the most approved plan, have been in operation since May, 1847, and, besides rails, can be made to turn out all the sizes and varieties of iron usually required by the trade.
There are on the ground one blowing engine of about 80-horse power for refineries, two large and two mill engines, condensing and steam engines; and one small condensing engine of about 40-horse power, for driving the guide mills. There are likewise one lathe and one pumping high-pressure engine, each about 20-horse power. All these engines, with one exception, are in first-rate working order.
Attached to the works are smiths', wrights', and fitting-up shops, with turning lathes, cranes, &c., complete. Also, offices, stables, mill manager's house, and 98 workmen's houses, besides ample accommodation in the village of Motherwell, immediately adjoining. These works are most favourably situated, being surrounded by coal and pig-iron works; and, as the Caledonian Railway forms one of the boundaries of the works, railway communication to all parts of the kingdom is afforded; and the works have a direct communication with the Harbour of Glasgow, distant 10 miles, by the Clyde and Glasgow Junction Railway. Upset price, £45,000.

LANDS OF BRAIDHIRST AND MILTON.
These lands, situated in the parish of Dalziel, and county of Lanark, lie contiguous, and extend in all to 390 acres, or thereabouts, but from that fall to be deducted about 20 acres, set apart for the Malleable Iron Works, to be held under Feu; and about 20 acres occupied by the Village of Motherwell, also held under Feu—leaving about 340 acres to be disposed of, together with the Feu-Duties exigible from the portions feued as aforesaid, which Feu-Duties amount to nearly 8000 per annum.
The lands are most advantageously situated, being bounded on the south-west side by the turnpike road from Glasgow to Lanark, on the south-east by the turnpike road from Edinburgh to Hamilton, and on the north-east, north, and north-west sides by the River Calder; and being intersected by the Wishaw and Coltness Railway, now forming part of the Caledonian Railway, easy access and communication is afforded to all parts of the kingdom.
There is an excellent Farm-Stead on the lands, with Out-Houses and Cottars'-Houses, sufficient for a large family establishment; and, having been for some years in the hands of the proprietors undergoing improvement, the lands are in the best condition.
The lands contain MINERALS, and the purchaser will obtain right, not only to the minerals in the Unfeued lands, but also to a large portion of those under the Feued Ground. The Coal has been wrought at a moderate depth for more than 12 months, for the supply of the Malleable Iron Works, and has been proved to be of excellent quality.
It is proposed to reserve to the Proprietors of the Malleable Iron Works a right to Feu about ten acres of additional ground, adjoining their works, at the rate of 6l. per acre (exclusive of Minerals, however), provided the option is exercised within a specified period. Upset price, £25,000.
For further particulars, application may be made to Laurence Hill, jun., at the works at Motherwell; James Anderson, at the company's office, 88, St. Vincent-street; or to Messrs. Paterson, and Forbes, 45, West George-street, Glasgow, in whose hands are the title-deeds and articles of roup, and plans of the property.
Glasgow, 21st July, 1849.

TO IRONMASTERS, FOUNDEES, &c.
MR. W. D. STARLING is instructed to SELL, BY PRIVATE CONTRACT, a QUANTITY OF OLD RAILS AND CHAIRS; also, several LOTS of CONTRACTORS' PLANT.—Application to be made at his office, 19, Change-alley, London, June 14, 1849.

MANSFIELD'S PATENT FOR SALE.—MR. EDWARD PALMER is instructed to offer this very VALUABLE PATENT FOR SALE BY PRIVATE CONTRACT. It includes several highly important inventions, among which are—the manufacture from coal tar of Benzole (a solvent of gutta percha, caoutchouc, opal, &c.), Nitro-Benzole, and Camphole, cheap substitutes for ether; oil of bitter almonds, and camphine, and of a liquid fuel for portable gas-lamps. Also the new system of illumination by Benzole Gas, producing a most brilliant light, without any noxious property. Likewise a most important improvement in Gas-burners and Lamps.
For further particulars, apply to Mr. E. Palmer, auctioneer, &c., 20, Change-alley, Cornhill, London.

EXTENSIVE IRON-WORKS FOR SALE,
BY PRIVATE BARGAIN.
THE BLAIR IRON-WORKS,
Belonging to the Ayrshire Iron Company, with the whole MINERAL FIELDS held by the said company, under favourable leases, including the MALLEABLE IRON-WORKS, immediately adjoining, so far as erected—all as particularly described in former advertisements.—There is a large STOCK of IRONSTONE on the ground, which may be had at a valuation.
For further particulars apply to Mr. Bignart, at the works; Mr. Watson, 32, and Mr. Brown, 35, St. Vincent-place, Glasgow; Messrs. McEldan and Mackenzie, accountants, there; Messrs. Gibson-Craig, Dalziel, and Brodie, W.S., Edinburgh; or Messrs. Montgomerie and Fleming, writers, Glasgow—the last being in possession of the title-deeds.
Glasgow, June 20, 1849.

VALUABLE AND EXTENSIVE MINES OF COAL AND IRONSTONE.
TO BE LET, ON LEASE, on most advantageous terms, the COAL and IRONSTONE under a very large tract of land, in the parish of RUABON in the county of DENBIGH, adjoining the Shrewsbury and Chester Railway.
The proprietors of the ESTATES on which the Ponkey and Aberdlyn Iron-Works were formerly carried on, have made arrangements TO LET BOTH PROPERTIES TOGETHER, which will give the lessee the facilities to carry on a lucrative business—very rarely to be met with.
The COALS and IRONSTONE on these ESTATES may be raised at very much less than an average cost, and the quantity proved in them (besides what are under a very large portion of one of them, in which there is no doubt they will be found) is estimated to supply iron-works with materials to make 400 tons of pig-iron weekly for upwards of 20 years, as well as 50,000 tons of the much and justly celebrated Yard and Wall and Bench Coals per annum for sale, for the same period.
Printed particulars of the property, and lithographed plans of the estates, showing the minerals under them, with calculations as to the expense of making iron from them, as compared with that of manufacturing it in Staffordshire, may be had upon application at the office of the Mining Journal, 26, Fleet-street; and at J. Boydell's, 54, Threadneedle-street, London; and at Messrs. Longeville and Williams, solicitors, Oswestry.
Oswestry, June 6, 1849.

CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.—At a Half-yearly General Meeting of the proprietors of the association, held at the offices of the company, 26, Austinfriars, on the 17th day of July, 1849, **RUSSELL ELLICE, Esq. (Chairman),** in the chair.
The advertisement convening the meeting having been read, the following report was read:—
The directors have much pleasure in congratulating the shareholders on the present prosperous state of their affairs; they have not for some years had so much satisfaction in laying the annual account of the operations of the company before the half-yearly general meeting as on the present occasion.—21,761 tons of ore were raised during the year 1848, which exceeded the produce of the preceding year by 5168 tons; and it is pleasing to state, that the quantity raised during the present year, as far as it has gone, is equal to that augmented quantity of 1848.
During a considerable part of last year the price of ore was very low, so much so, that the directors were induced to reserve in a friendly discussion a handsome profit, the directors now declare a dividend of 3l. per share, payable on and after the 30th inst.
The re-imposition of the Danish blockade has somewhat lessened the demand for copper, and thrown a little back the price of ore, which has induced the directors again partly to reserve the stone ore; nevertheless, as things generally on the continent are taking a more settled form, and the stock of copper there is said to be very low, the directors look forward for ore to be a good demand and to better prices.
The directors have for some time been engaged in a friendly discussion with the directors of the St. Jago Company, and they have reason to hope, that every point of difference between the two companies will be settled in an amicable manner.
It was mentioned in the report of January that the directors had entered into an engagement with Mr. Bankart to smelt a limited quantity of copper, according to a new process, by which he expects a great saving will be accomplished; and it is contracted that all the copper smelted by that process is to be of that quality called the "best select," and the sales arising from them have already realized a handsome profit.
It is gratifying to the directors again to announce, that the business of the company at the mines continues to be conducted by the agents there to their satisfaction. Those gentlemen have succeeded, during the past year, in materially reducing the general expenditure.
It was then moved by the Chairman, seconded, and carried unanimously,—
That the report and accounts, now read, be received and adopted.
Moved by Spencer de Horsey, Esq., seconded by Henley Smith, Esq., and carried unanimously,—
That the thanks of the meeting be given to the chairman and directors, for their attention to the interests of the company.

CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.—Notice is hereby given, that a DIVIDEND OF THREE POUNDS per share will be PAID TO the HOLDERS of CERTIFICATES in this company, at the office of the association, 26, Austinfriars, on and after the 26th day of July, 1849, between the hours of Eleven and three o'clock.—The proprietors are requested to leave their certificates at the office, for examination, three clear days before the day of payment.
By order of the court of directors, WM. LECKIE, Secretary.
26, Austinfriars, July 17, 1849.

TWENTY-FOURTH REPORT OF THE LONDON JOINT-STOCK BANK.—At a General Meeting of the shareholders, held at the banking-house of the company, in Princess-street, Mansion-house, on Thursday, July 19, 1849,
CHAIRMAN—WILLIAM JAMES LANCASTER, Esq.
DEPUTY-CHAIRMAN—GEORGE SCHOLEFIELD, Esq.
DIRECTORS.
William Blount, Esq., Sir Richard Jenkins, G.C.B.
Sir Felix Booth, Bart., William J. Lancaster, Esq.
Sir George Carroll, Alderman, Sir John M. Taggart, Bart., M.P.
William Miller Christy, Esq., George Meek, Esq.
William Curlew, Esq., William Mitton, Esq.
George Holgate Foster, Esq., Ambrose Moore, Esq.
William Ormsby Gore, Esq., M.P., John Timothy Oxley, Esq.
Henry Grace, Esq., George Scholefield, Esq.
Archibald Hastie, Esq., M.P., William Shadbolt, Esq.
George Taylor, Esq.
THE MANAGERS—George Pollard, Esq.
SOLICITORS—Messrs. Tison, Squance, Clarke, and Morice.
The following report was presented:—
The annexed accounts which the directors have the pleasure to lay before the shareholders will inform them that the net profits realized by the bank during the six months, ending the 30th June last, amount to £38,433 14s. 1d., and that the sum of £16,000 being appropriated to the half-yearly dividend, at the rate of 6 per cent. per annum, there remains a balance of £15,433 14s. 1d. undivided profit to be disposed of at the end of the year. The dividend, free from income-tax, will be payable on and after Friday, the 27th instant.
The preceding report having been read to the meeting by the secretary, a dividend for the half-year, ending the 30th June last, after the rate of 6 per cent. per annum, was declared by the chairman.
Resolved unanimously.—That the report now read be received, and that it be printed for the use of the shareholders.
Resolved unanimously.—That the thanks of the shareholders be presented to the chairman and directors for the great ability, integrity, and care, with which they have conducted the affairs of the bank.
Resolved unanimously.—That the best thanks of the shareholders are due also to Mr. Pollard, the manager, for the great talent and diligence he has applied to the duties of his office, which have conducted the bank to such a successful result.
(Signed) WILLIAM JAMES LANCASTER, Chairman.
F. HEWETT, Secretary.
Extracted from the minutes.

UNION BANK OF AUSTRALIA. 38, Old Broad-street.—The directors having this day declared a DIVIDEND OF THREE PER CENT. for the half-year, upon the entire paid-up capital of the bank, together with a bonus of Five Shillings per share on the 33,000 paid-up shares, and a like proportion of bonus on the £3 10s. per share paid-up on the 8000 shares of the third series, PAYABLE on the 1st of August next, Notice is hereby given, that the transfer books will be closed from the 17th inst. until that date.
By order of the board,
SAMUEL JACKSON, Secretary.

TO THE PROPRIETORS OF COAL MINES, IN WALES OR NEWCASTLE.—A PROPRIETOR OF COAL MINES, wanting to increase his trade abroad, may PRODUCE the SERVICES of a GENTLEMAN having connections who buy, by cargoes or by contract, in large quantities at Boulogne, Amiens, Abbeville, Calais, and other places along the French coast. One who can furnish good coal suitable for gas-works, steam-engines, or grates, at a moderate price, will please to address (post-paid), with full particulars of prices and qualities, to Mr. Riley, 6, bis, Impasse Pipe, Boulogne.

A GENTLEMAN, a native of Freyberg, who has been some years in the Royal Saxon Service of Mines, is desirous of meeting an ENGAGEMENT, in ENGLAND or ABROAD. He has a general knowledge of mining and chemistry, understands assaying in all its branches, and is perfectly acquainted with the smelting and refining of copper, lead, silver, and gold.—Address, "G. T." at the office of the Mining Journal, 26, Fleet-street, London.

GLASS TRADE.—WANTED, a PARTNER, in England, to SECURE a PATENT RIGHT for NOTABLE IMPROVEMENTS in the MAKING of GLASS.—Apply (post-paid) to Mr. Eschere, Philippville, Belgium.

WANTED, about TWENTY NEW, or good SECOND-HAND PUMPS, 14 inch thick, 8 inches bore, 9 feet long, and about 9 cwt. each.—Address particulars, as to lowest price, &c., and port for shipment, to Captain Horton, Jamaica Coffee House, Cornhill, London.

STEAM-ENGINE FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, an 88-inch cylinder STEAM-ENGINE, 10-foot stroke, equal beam.—Application to be made to Messrs. Hocking and Loan, engineers, Redruth.

VALUABLE MINE SHARES.—FOR SALE, BY PRIVATE CONTRACT, THIRTY-FIVE (35) SHARES of the well-known and excellent TIN MINE, BALLESWIDEN, in ST. JUST, near Penzance, Cornwall, in three lots, of 20, 10, and 5 shares.—This mine was never in a more efficient state of operation than at present. Large dividends of profits have hitherto been shared among the adventurers, and the present prospects fully justify the expectation of realising large and continued remunerating profits for the future.
Apply to Mr. J. B. Merfield, mine and sharebroker, auctioneer, and general agent, Clarence-street, Penzance.—Dated July 16, 1849.

MINES IN FLINTSHIRE.—TO BE SOLD, BY PRIVATE TREATY, by order of the trustees of the late William Williamson, of Greenfield, Esq., SHARES in the following valuable and well-known MINES, in the county of Flint—viz., Talargoch, Hendre, Talacre, Nant, and Parys Mine, near Halkin.
Most of the above mines are so celebrated, and have been so long established, that it is unnecessary to add a word in support of their claim to public attention.
ON SALE also, by PRIVATE TREATY, a MOIETY of the COAL and MINERALS under about 28 acres of land, in Groesby, in the parish of Llana, now in the occupation of—Jones, Esq.
For information and particulars apply to Mr. Williamson, solicitor, Pendra, Holywell; Mr. William Williamson, solicitor, Well-street, Holywell; or to Mr. E. H. Williamson, Greenfield, near Holywell, Flintshire.

MINING PROPERTY.—MR. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.: Guadalcanal, Kewick, United Mexican, Altana, East Crowlands, Bedford United, Tincroft, Treleighs, South Tamar, South Wharf, Frances, Stray Park, East Pool, Telavny, H. Imbush, Callington, Mary Ann, West Seton, South Tolgus, and Devon Great Consols Mines.

MR. EVAN HOPKINS, C.E., F.G.S., CONSULTING ENGINEER AND INSPECTOR OF MINES.
May be CONSULTED DAILY (by letter) on all subjects connected with MINING PROPERTY, both Home and Foreign.
BARRINGTON-ROAD, Brixton.

MR. GEORGE BATE, JUN., CIVIL ENGINEER AND SURVEYOR, WOLVERHAMPTON.
N.B.—UNDERGROUND MINING SURVEYS accurately executed.

MR. JAMES STRIDE, MINING AGENT, AND DEALER IN SHARES, 21, SPRING-GARDENS, LONDON.

MR. C. S. RICHARDSON begs to announce that he has REMOVED his OFFICES from Whitefriars-street, Fleet-street, to 15, OLD BROAD-STREET, CITY.

JAMES LANE, MINING SHARE DEALER, 80, OLD BROAD-STREET, LONDON.

AUSTRALIAN MINING COMPANY, 1, Adelaide-place, July, 1849.—The board of directors hereby give Notice, that, agreeably to the provisions of the Deed of Settlement, the FOURTH ANNUAL GENERAL MEETING of the shareholders in this company will be HELD at this office on Monday, the 30th July inst., at Twelve o'clock precisely, to receive the report, accounts, and balance-sheet for the past year—to elect three directors in lieu of three who go out by rotation—and to fill up the vacancies occasioned by the resignation of John Capper, Esq., and the decease of Hannibal de Castro, Esq.—to fix the remuneration of the present auditors for the past year. At which meeting also a motion will be submitted for a modification of the present manner of admitting votes by proxy at general meetings.
By order of the board, (Signed) J. A. JOSEPH, Secretary.

BOLANOS MINING COMPANY.—A SPECIAL GENERAL COURT of proprietors of the above-named company will be HELD at No. 2, Duke-street, Adelphi, on Wednesday, the 1st of August next, to confirm resolutions for raising an additional capital, by the issue of 14,000 preferential shares, at the price of £3 per share—which sum is to be returned to the holders of such preferential shares before any payment, out of profits, be made on account of the shares now existing, and the said preferential shares afterwards to rate equally with the other shares of the company. The present registered, or scrip, shareholders will be entitled to the preference of such new shares, but applications will be received from other parties for such shares as may not be taken by the present shareholders.

CAMERON'S COALBROOK STEAM COAL & SWANSEA AND LOUGHOR RAILWAY COMPANY.—Registered and Incorporated.
Notice is hereby given, that the ANNUAL GENERAL MEETING of the registered proprietors of shares in this corporation will be HELD at the company's office, 2, Moorgate-street, London, on Tuesday, the 31st day of July inst., at One o'clock in the afternoon precisely, for the purpose of receiving the directors' reports, and for the transaction of other business, as expressed in the Deed of Settlement and Act of Parliament incorporating the company.—Shareholders in arrears of call are disqualified from voting at the meeting.
By order of the board of directors, A. C. HOWDEN, Secretary.
Company's Office, 2, Moorgate-street, London; July 12, 1849.
Note.—The transfer books will be closed from the 14th to the 31st of July inst., both inclusive.

COIAPPO MINING COMPANY, 22, Austinfriars, July 13, 1849.—Notice is hereby given, that the HALF-YEARLY MEETING of the shareholders in this company will be HELD at their office, 22, Austinfriars, on Thursday, the 26th inst., at One o'clock precisely. At this meeting two directors, and one auditor, will go out of office by rotation, but, being eligible, will offer themselves for re-election.
Notice is further given, that this meeting is made SPECIAL, for the election of a director; any shareholder desirous of becoming a candidate, is requested to give seven days' previous notice of such intention in writing to the secretary.
By order of the directors, FRED. GRELLET, Secretary.

HOLYFORD COPPER MINING ASSOCIATION.—The HALF-YEARLY GENERAL MEETING of the shareholders will be HELD at the office, 34, Great Winchester-street, on Tuesday, the 30th July inst., at Twelve o'clock for transacting the ordinary business of the association.
London, July 17, 1849. J. W. BUCKLAND, Junr., Secretary.

TAMAR SILVER-LEAD MINING COMPANY, THIRTEENTH DIVIDEND.
Notice is hereby given, that a DIVIDEND OF TEN PER CENT. has been declared by the directors upon the paid-up capital of this company, PAYABLE on Wednesday, the 11th proximo, and succeeding Wednesdays, between the hours of Twelve and Four. The certificates are required to be left at the office two clear days, in order to be examined and marked.—44, Finsbury-square, London, June 21, 1849.

UNITED MEXICAN MINING ASSOCIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of the shareholders of this association will be HELD at the office of the company, No. 5, Finsbury-square, on Wednesday, the 25th day of July proximo, at One o'clock precisely, when the directors, three directors and one auditor will take place.
Directors going out by rotation—Sir John Easthope, Bart., and Charles B. Esq.
Auditor going out by rotation—Henry Bunster, Esq.
And who, being eligible thereto, are candidates for re-election.
Candidates for the vacancy in the direction, caused by the retirement of John B. Esq.—Joseph Tasker, Esq., of Middleton Hall, Brentwood, Essex.
The transfer books will be closed on the evening of the 13th, and re-opens on the 14th of July.
By order of a court of directors,
5, Finsbury-square, London, June 23, 1849. JOHN MATTHEW, Secretary.

CORNISH STEAM-ENGINES.

The number of pumping-engines reported for the month of June is 23—the quantity of coals consumed being 3405 tons lifting, in the aggregate, 23,090,000 tons of water to fathoms high—the average duty of the whole is, therefore, 34,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.—The following have exceeded the average:—

| Mines. | Engines. | Length of stroke in ft. | Load in lbs. | Load per sq. inch on piston. | Strokes per min. | Consumption of coal in bushels. | Million lbs. lifted 1 foot by consumption of 1 bushel of coal. | Lifted 1 ft. by 1 cwt. of coal. |
|---------------|------------------|-------------------------|--------------|------------------------------|------------------|---------------------------------|--|---------------------------------|
| Great Work | Leeds's 60-in. | 9-8 | 41,829 | 11-0 | 9-7 | 2688 | 56-5 | 87 |
| East W. Croft | Frevenon's 80 | 10-33 | 82,333 | 12-2 | 5-7 | 3318 | 58-5 | 63 |
| East Pool | 60-in. | 9-75 | 38,124 | 11-0 | 4-4 | 2445 | 54-5 | 68 |
| Carri Bros. | Sim's 50-in. | 9-0 | 60,882 | 24-2 | 4-4 | 1618 | 52-1 | 68 |
| Pollice | Sim's 55-in. | 11-0 | 77,245 | 9-6 | 7-3 | 3839 | 57-6 | 68 |
| South Frances | 75-in. | 11-0 | 38,069 | 7-0 | 5-0 | 1608 | 54-6 | 65 |
| United Mines | Taylor's 85-in. | 11-0 | 97,621 | 15-6 | 5-5 | 3648 | 77-6 | 92 |
| Ditto | Cardosa's 90-in. | 9-0 | 100,983 | 13-8 | 7-1 | 5074 | 58-0 | 69 |
| Ditto | Eldon's 30-in. | 9-0 | 13,631 | 16-0 | 7-5 | 616 | 65-3 | 79 |
| Ditto | Loam's 45-in. | 10-0 | 87,947 | 11-6 | 7-2 | 4406 | 66-1 | 67 |
| Ditto | Hocking's 85-in. | 10-0 | 97,817 | 14-4 | 6-9 | 5132 | 57-9 | 69 |
| Tywarthay | Gardner's 30-in. | 10-0 | 73,268 | 11-6 | 7-0 | 3350 | 58-1 | 69 |
| East W. Rose | Penrose, 70-in. | 10-0 | 68,640 | 16-0 | 3-9 | 1664 | 69-4 | 83 |
| Ditto | Michell's 70-in. | 10-0 | 68,171 | 15-6 | 3-4 | 1586 | 64-3 | 76 |

[Abstract from Browne's Cornish Engine Reporter, from May 20 to June 20, 1849.]

| Number reported | 25 |
|---|-------|
| Average load per square inch on the piston, in lbs. | 12-3 |
| Average number of strokes per minute | 5-1 |
| Gallons of water drawn per minute | 5208 |
| Average duty of 17 engines—being million lbs. lifted 1 foot high, by the consumption of 1 cwt. of coals | 65-6 |
| Actual horse-power employed per minute | 921-0 |
| Average consumption of coals per horse-power per hour, in lbs. | 4-0 |

| Number reported | 20 |
|--|--------|
| Number of kibbles drawn | 77,928 |
| Average depth of drawing, in fathoms | 128-3 |
| Average number of horse-whim kibbles drawn the average depth, by consuming 1 cwt. of coals | 53-0 |
| Average duty of 11 engines, as above | 19-6 |

| Number reported | 7 |
|--|-------|
| Average number of strokes per minute | 13-4 |
| Average duty of 6 engines, as above | 18-4 |
| Actual horse-power employed per minute | 163-8 |

| PUMPING-ENGINES DOING HIGHEST DUTY. | | | |
|-------------------------------------|--------------------------------|----------|-----|
| Par Consols | 80-inch single | Millions | 100 |
| Fewey Consols | 80-inch single | | 99 |
| Par Consols | 72 and 36-inch Sims's combined | | 94 |
| Callington | 80-inch single | | 82 |
| Great Polgoth | 80-inch single | | 82 |
| West Fewey Consols | 60-inch single | | 81 |

| | | WHIM-ENGINES. | |
|----------------|------------------------------|-------------------|-----|
| Fowey Consols | 22-inch double | Millions | 29- |
| Par Consols | 24 & 13-inch Sims's combined | | 37- |
| Fowey Consols | 22-inch double | | 24- |
| Par Consols | 24-inch single | | 18- |
| Great Polgooth | 22-inch double | | 17- |
| | | STEAMING-ENGINES. | |

| | | | |
|---------------------|---------------------|---------------|------|
| Great Polgooth..... | 35-inch double..... | Millions..... | 56-6 |
| Tincroft..... | 36-inch double..... | | 46-4 |
| Tamar..... | 30-inch single..... | | 39-7 |
| Great Polgooth..... | 24-inch double..... | | 38-9 |

CHANGES IN THE IRON TRADE.—It is reported, we believe on credible authority, that T. Scale, Esq., of Aberdare, or a company of which that gentleman is a leading member, have become the purchasers of the Cefn Cwac Iron and Coal Works, as well as of the Garth Works, Maesteg, both of which belonged to the Galvanised Iron Company. It is likewise rumoured that the same party has taken the works of the Britonferry Iron Company, and that all these establishments are to be carried on with vigour. We sincerely hope, on account of the trade and commerce of these important districts of Glamorgan-shire, and especially for the sake of the working population, that such is the case. It is well known that the Garth Works have been for some time at a standstill, excepting so far as the employment of comparatively few hands to dig mine, is concerned. At the Cefn Cwac Works operations have been carried on very inactively and cautiously, while the Britonferry furnaces were put out a few weeks since. We, therefore, hail this information, as a good omen, and view it as some indication of an expected revival at no distant period, in this important branch of our trade.—*Swansea Herald.*

THE IRON TRADE IN AMERICA.—There are in Ohio and Kentucky 33 iron furnaces, which yield an aggregate of 56,000 tons of pig metal each year; in addition to which there are a number in Tennessee and Illinois, which yield a considerable amount of metal, and with the increase of population in the west this business is steadily advancing. Much the largest portion of Ohio and Kentucky is disposed of in the Cincinnati market; and it is very seldom that the supply is more than adequate to the demand, or that the former is not about equal to the latter. In consequence of this, and the article not being one of speculation, prices fluctuate but little, and the ruling rates have been about \$25 for cold blast, Tennessee and Illinois; \$28 for Ohio and Kentucky; and \$27 for hot blast. Of the 56,000 tons produced in Ohio and Kentucky, it is estimated that 22,000 tons is consumed in Cincinnati, for which \$600,000, or thereabouts, is paid annually. From this statement, some idea may be formed of the extent of the foundry business in Cincinnati.—*Philadelphia Com. List.*

ACCIDENTS.

Threapstone Colliery, Newton.—Adam Robinson, in spite of continued warnings, went into one of the workings with a naked light, when a quantity of carburetted hydrogen exploded, and so scorched him, that his recovery is uncertain. Several men have lately been discharged from this colliery for taking the tops of their lamps off.

Scott's Cross.—In sinking a shaft here, which was already 30 yards deep, a shot was charged, and the men came up the shaft, when the runner was placed over it, and J. Bridgewater stood upon it. The explosion forced a piece of rock perpendicularly up the shaft, struck the runner, carrying part of it and the man several yards into the air, to the astonishment of his companions. He escaped with a few bruises.

Whitewash Colliery.—As B. Dryden, a carpenter in the employ of the Earl of Lonsdale was at work on a platform in the William pit, it by some means gave way, and precipitated him 90 fms. to the bottom of the shaft, from whence he was taken out dead, and much mutilated. He had been 30 years in the earl's employ, and was much respected.

Falling in of a Coal Mine.—We learn that an accident occurred at Capt. Ferrie's coal-pit, Dalmarock, which it is easily conceivable might have been attended with the most disastrous consequences, though happily such, so far as we can understand, did not accrue from it. The roof of the pit has to a considerable extent sunk in. By this depression a considerable alteration has been effected in the position of the land on the surface, and one farmer will, in particular, suffer severely thereby. It is extremely fortunate, however, that the circumstance, which must have been entirely unexpected, has entailed no loss of life.—*Glasgow Daily Mail.*

Wreckers.—A most calamitous accident occurred at the Minerva Colliery of Mr. Burton, by which eight persons were killed, and two others dreadfully injured, one of whom is since dead. It appears to have been the practice of some of the colliers to use an unprotected light in the pit, although there was plenty of safety-lamps at hand, and such a light having been carried on this occasion, the first lamp in one part of the pit exploded. A horse was also killed by the explosion, and a large quantity of machinery considerably damaged.—*Chester Courant.*

Clay Cross, Derbyshire.—Several beds of coal crop out near the tunnel, in a field belonging to Mr. T. Elliott, jun., miller, and a heading is driven in the meadow to obtain coal for the engine-furnace; J. Kinder, on Wednesday, went in to get a few barrows of coal, when, remaining an unusual time, he was searched after and found dead, having been suffocated by carbonic acid gas.

Worsley.—Joseph Fox (aged 13) was killed in a coal-pit belonging to Messrs. Oakes and Jones, of Standhill, by an explosion of fire-damp.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 13 9—Carr's Hartley 13 9—Chester Main 12 9—East Adair's Main 12—Hastings Hartley 13 9—Hollywell Main 12 6—New Tanfield 12 6—South Parreth 12—Tanfield Moor 12 9—Tanfield Moor Butes 12 6—Walker's Primrose 12—Wylam 13 9—Wall's End Acorn Close 15—Brown's Gas 12—Bewick and Co. 15 3—Brown's 14—Gibson 14 9—Hebburn 14 9—Hilda 14 9—Northumberland 14 9—Walker 14 9—Wharfedale 15 3—Eden Main 15 9 to 16—Lambton Primrose 15 9—Bell 16 9—Belmont 16—Heston 17—Hutton 16 6—Jonasheas 14 9—Lambton 16 9—Russell's Heston 16 9—Stewart's 17—Canard 17—Hartlepool 17—Henge Hall 15 6—Hordson 15—South Hartlepool 15 6—Whitworth 15 6—Condon Toss 15 3—Richardson's Toss 14 3—Seymour Toss 15 3—South Durham 15 3—St. Helen's Toss 14 6—Toss 17—West Heston 15 3—Hartley 13 9—Sidney's Hartley 13 9—Ships at market, 183; sold, 95.

WEDNESDAY.—Buddle's West Hartley 14 6—Hastings Hartley 14 3—Hollywell Main 14 6—New Tanfield 12 6—Ord's Redheugh 12 6—Tanfield Moor 12—Tanfield Moor Butes 12 6—Walker's Primrose 12 6—Wall's End Acorn Close 15 3—Brown's Gas 12—Bewick and Co. 15 3—Brown's 14—Gibson 14 9—Hebburn 14 9—Wharfedale 15 6—Eden Main 15 9 to 16—Bell 16 9—Bradyell 16 6—Heston 17—Hutton 16 6—Jonasheas 14 9—Lambton 16 9—Russell's Heston 16 9—Stewart's 17—Canard 17—Hartlepool 17—Henge Hall 15 6—Hordson 15—South Hartlepool 15 6—Whitworth 15 6—Condon Toss 15 3—Richardson's Toss 14 3—Seymour Toss 15 3—South Durham 15 3—St. Helen's Toss 14 6—Toss 17—West Heston 15 3—Hartley 13 9—Sidney's Hartley 13 9—Ships at market, 111; sold, 61.

FRIDAY.—Buddle's West Hartley 14—Carr's Hartley 14 6—Chester Main 14—E. Adair's Main 14 6—Hollywell Main 14 9—New Tanfield 12 6—Ord's Redheugh 12—Ravenworth's West Hartley 13 9—Tanfield Moor 12—Tanfield Moor Butes 12 6—Walker's Primrose 12 6—Wall's End Acorn Close 15 3—Brown's Gas 12—Bewick and Co. 15 3—Brown's 14—Gibson 14 9—Hebburn 14 9—Wharfedale 15 6—Eden Main 15 9 to 16—Bell 16 9—Bradyell 16 6—Heston 17—Hutton 16 6—Jonasheas 14 9—Lambton 16 9—Russell's Heston 16 9—Stewart's 17—Canard 17—Hartlepool 17—Henge Hall 15 6—Hordson 15—South Hartlepool 15 6—Whitworth 15 6—Condon Toss 15 3—Richardson's Toss 14 3—Seymour Toss 15 3—South Durham 15 3—St. Helen's Toss 14 6—Toss 17—West Heston 15 3—Hartley 13 9—Sidney's Hartley 13 9—Ships at market, 91; sold, 61.

PLANTAGENET GUARD RAZOR.

BY ROYAL LETTERS PATENT.

Under the special Patronage of the NOBILITY and GENTRY, the ARMY and NAVY, the CLERGY, the BAR, and the FACULTY.

This Guard Razor is made of the finest tempered steel, imparting a matchless smoothness and keenness to the edge, and the addition of the moveable Guard causes the Razor to glide with safety over the face, removing the beard without cutting the skin.

The simplicity and safety of this invention is so complete, that the Guard Razor can be used by the blind, the short-sighted, the bedridden, and the paralysed, with perfect safety. Every razor is warranted, and will be exchanged if imperfect.

Printed descriptive particulars sent post free.

Prices.—Best ivory handles per pair, 16s.; black handles, 12s., sent post free for 8d each extra. A pair, with ivory handles, in Russia box, one guinea, post free 1s. 6d. extra. A single razor, with splendid electro-gilt guard, in roan case, half-a-guinea, post free 6d extra.

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REMOVED (from 140, Strand) to No. 23, CHARING-CROSS.
Caution.—Every Guard is stamped with the Patentees' Signature of "C. STEWART and CO.," to imitate which is forgery.

AGENTS.
Bath—R. Fignall, 39, Milson-street.
Bristol—Henry Shum.
Bristol—Mr. F. Rose, No. 32, Welsh Back.
Birmingham—Wm. Elmore, perfumer, 31, Bull-street.
Chester—Nixon, perfumer.
Carnarvon—Wills and Hughes, booksellers.
Cork—J. Pigott, 29, Marlborough-street.
Dublin—J. Parkes & Co., Chancery-lane.
Douglas (Isle of Man)—R. G. Kelly.
Edinburgh—Arch. Young, 17, Prince-st.
Arch. Macbride, perfumer to the Queen, 67, George-street.
William Marshall.
Liverpool—Everard Easton, St. George's-crescent, &c.
Loughborough—B. Baldwin, Jeweller, Market-place.
London—E. J. Partridge, Public Library.

ACCIDENTAL DEATH INSURANCE COMPANY.
PROVISIONALLY REGISTERED.
Capital £100,000, in 5000 shares, of £20 each; with power to increase it to £250,000.

KENYON S. PARKER, Esq., Q.C., Chairman.
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John Phillips Judd, Esq.
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Messrs. Curries and Co., No. 29, Cornhill.
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CONSULTING ACTUARY—Edward Ryley, Esq., F.R.A.S.
This company undertakes to effect insurances, to be paid only in the event of the insured dying by an accidental or violent death, whether in travelling or otherwise. The smallness of the premium, which is payable once for the whole term of life, in proportion to the sum insured, will render its objects attainable by those whose means will not admit of their effecting ordinary life insurances.
The premium to be charged for insuring the lives of the general class of persons is one payment of £1 1s. per cent., but the directors will be prepared to consider proposals on the lives of persons whose occupations expose them to peculiar hazard, as risks not to be entirely rejected, but in many instances to be undertaken, at an increased rate of premium.—Offices have been secured at No. 7, Bank-buildings, Lothbury, which are in course of completion; and in the meantime prospectuses and information can be procured from the secretary, at No. 6, New Broad-street, to whom applications from parties wishing to become agents for the company can be addressed.

LONDON INDISPENSIBLE LIFE POLICY COMPANY,
INCORPORATED BY ACT OF PARLIAMENT.
ON THE PRINCIPLE OF MUTUAL LIFE ASSURANCE.
No. 31, Lombard-street, London.

TRUSTEES.
John Campbell Renton, Esq., M.P.; Richard Spooner, Esq., M.P.
Richard Malins, Esq., Q.C.; James Fuller Madox, Esq.
William Wilberforce, Esq.

This company is prohibited by their Deed of Constitution, only registered in terms of the Act, from disputing a policy upon any ground whatever. All questions as to age, health, habits, and other matters deserving of inquiry, prior to the contract being entered into, are held as finally settled, when the assured receives his policy.
Copies of the annual report, and of the annual meeting of the members, prospectuses, and schedules, may be obtained by personal, or written, application to the Head Office, or any of the agents.

PROFITS ON LIFE ASSURANCE.—Few persons who have not the means of inspecting the annual accounts of the old assurance offices can have the slightest conception of the enormous profits which have been made under the original rates of premium, or can wonder that there should be so wide a field for competition, and that modern societies should be able to pay handsome dividends and bonuses, on a reduction of premiums, in some cases to the extent of 50 per cent. The Equitable, which was, we believe, the first establishment which originated rates of premiums far below the Sun, Phoenix, Royal Exchange, Amicable, and others under the ancient régime, have been realising such extraordinary gains that they now possess, in consols, 2,305,000l.; reduced bank annuities, 2,740,000l.; cash on mortgage, 4,121,844l.; making together a reserve fund, if it can be so termed, of the enormous amount of 9,166,849l. Their receipts, as premiums and other business items, for the year ending Dec. 31 last, were 261,193l., while their interest on mortgage debts was 160,105l.; and dividends on stock, 152,925l. The cash paid on policies, claims, and additions, amounted to 698,791l.; and for surrendered policies and additions, and further investments, 62,296l.; leaving balance in hand, 85,969l.

ACCIDENTAL DEATH INSURANCE COMPANY.—As a novel feature arising out of the general principles of life assurance, we have, on a previous occasion, noticed the Railway Accident Assurance Company, by which a sum of money could be secured, for a small payment, in case of death during a particular journey, or by an annual or quarterly payment for railway travelling generally. In the prospectus for a new company just formed, we find this principle still further developed, in which the promoters offer to guarantee a sum at death in case the assured loses his life by any accident, and dies within 21 days after it happens. Every person of observation is aware how often, how sudden, is the thread of life severed, when the remotest danger could not have been anticipated; nor is it only the members of callings, whose occupations are more than usually hazardous, that alone fall victims to accidental deaths. Pleasure-seekers of all grades—by river, or by rail, by carriage, or on foot—the plodding tradesman, the enterprising merchant, the tolling mechanic, the engineer and architect, without a moment's warning, may, by accident, be snatched from this sublunary scene, and will be wise to embrace the advantages offered by this society. As the number of deaths from violent accident form but a moderate proportion of the whole range of mortality, we expect, of course, the premiums will be proportionally low. They have not yet commenced actual business, although a highly respectable direction is formed; and they have fixed the premiums at one guinea per cent. on ordinary lives, not engaged in hazardous occupations, which is as low as they can be consistently with justice to the assured and to the proprietors, and, except in particular cases, this single payment is substituted for annual premiums, by which means the policy-holder is assured for life, without incurring the risk of forfeiting a policy by any accidental omission, or inability, to continue the yearly payments, generally necessary to keep an ordinary life policy on foot. The capital is 100,000l., in 5000 shares, of 20l.—an amount which will afford ample protection, but powers are reserved to raise it to 500,000l., if necessary.

THE TIMES LIFE ASSURANCE AND GUARANTEE COMPANY.—Notwithstanding the vast extent of societies for carrying out the principle of life assurance, and their continual increase, other institutions continue to be established, each showing some novel feature, each involving some new element in their constitution, for the furtherance of the system, and the progressive advantage of the assured. We have before us a prospectus of a new assurance society under the above title, established in connection with the Early Closing Association—an institution whose exertions are spreading abroad a large amount of moral energy, and higher self-respect; and, among that description of the middle classes where increased attention will be paid to the benefits and the necessity which duty inculcates to make a provision for those left behind, in case of death, which may now be done at so trifling a reduction from the most moderate income. The prospectus of this society possesses some distinctive features, in addition to the usual tables for life assurance, annuities, and family endowments. The payment of premiums is yearly, half-yearly, quarterly, or monthly, to suit the convenience of all classes. If an assessor is in difficulties, and cannot pay his premium, he can, on giving notice, make it a debt on the policy until better times enable him to redeem it. One description of assurance may be exchanged for another; assurances may be secured on life by a single payment, and the regulations and the tables appear to us to possess all the best systems, and to combine several new elements of considerable advantage to assureds. The guarantee department in connection with this society is based on a system of mutual benefits, and offers a still wider field for the exercise of much utility. The list of directors, &c., embraces many names of high standing, and the society appears to be established, not only legitimately, but on a highly respectable basis.

ALLEGED MINING ENCROACHMENT ON CROWN RIGHTS.

HEARL COURT—JULY 18.

THE ATTORNEY-GENERAL v. WILLIAMS, EARL CAWDORE, AND OTHERS.—Mr. TURNER (with whom was Mr. Maile) stated that this was a motion at the relation of her Majesty, for a view and survey of certain mines at Old Castle Farm, Carmarthen shire, which extended beneath the sea-shore; and it was alleged by the relator that the works were carried on beyond the line of the high-water mark of the sea, whereby the rights of the Crown were infringed. The proceeding was instituted by the Commissioners of Woods and Forests and Land Revenues. The statement made by the learned counsel was, that the Crown, having been apprised of the fact, applied in vain for permission to send its own surveyor to ascertain to what distance seaward the company were working from the mouths of the four shafts sunk for the purpose of raising coal and culm. The owners of the land had leased the property to a company for mining purposes, and these parties also had large copper-smelting furnaces in the neighbourhood. The information which the mining company furnished was, as the Crown alleged, not to be depended upon; and it, therefore, became necessary, with a view to protect the Crown, and to avert proceedings, if it should be found necessary to move for an injunction, that the Court should compel the company to give the Crown surveyor access to the mines. The motion, therefore, was that the Court order that access should be given to the surveyor of the Crown to see how far seaward the miners had carried the works from the base of the four shafts, and that the company should furnish the said surveyor with plans and drawings of the works underground, and also with an account of the quantity of coal and culm raised from the pits to seaward.

Lord LANGDALE remarked that the principal point to be settled was what was the line of high-water mark? Mr. MAULE admitted that was the material point. There was a difference between the high-water mark at the equinoctial season, when it was highest, and the high-water mark at neap tides. The company maintained that the former was an irregularity in the tide, and that the high-water ought to be considered the height of the sea at neap tides. The Crown, though itself justified in assuming the latter to be high-water mark. The cases of *Kyraston v. the East India Company* and *Lord Lonsdale v. Urwin* were quoted as precedents for the application.

Lord LANGDALE: Perhaps it may turn out to be a line between these extreme lines. Mr. GOLDSMITH, for the mining company, observed that he made no objection on the ground of the court's having jurisdiction. The information sought the court could enforce, but the motion now was premature, for the time for it had not arrived, and there was no necessity shown for it at present. The Crown had not shown that the mine was under the shore at high-water mark.

Lord LANGDALE: You do not deny it, but only say that, to the best of your belief, the mine is not under the shore below high-water mark.

Mr. DICKENSON followed for the lessees of the mine.

Lord LANGDALE gave judgment. He said the latter part of the application must fall to the ground. There was, as yet, no reason shown for rendering an account of coal and culm raised, and certainly no necessity now for the production of these maps and charts; but it was perfectly reasonable that the Crown's officers should be permitted to descend into the mine, and having done so, and ascertained how far to seaward of the shafts the mine had been extended, so many feet could be measured from the shaft's mouth to seaward, and then it could be distinctly ascertained whether the mine extended beneath any of the three lines alluded to—the equinoctial or spring high-water mark, the neap tide high-water mark, or the medium line. The whole is to be done with regard to the convenience of the mining company, and after a suitable notice on the part of the surveyor.

The order was entered in conformity with his lordship's judgment.

THE ALLEGED ROBBERY AT THE MARMATO GOLD MINES.—In the Mining Journal of the 7th inst we reported the charge made against Mr. William Degenhardt, for appropriating to himself two bars of gold, a quantity of gold dust, and other valuables, the property of the Marmato Mining Company, when he was admitted by Mr. Norton to bail in his own recognizances of 500l.

He surrendered on Thursday last, to undergo a further examination, when Mr. Justina, from the office of Messrs. Maples and Co., Old Jewry, and Mr. Powles chairman of the company, attended to prosecute; and Mr. Games for the defence. The property found in the first instance on board the vessel in which Mr. Degenhardt was passenger, amounting to about 1000l., did not include the gold bars, and Mr. Justina stated that the whole of his goods had been carefully examined, and he was bound to say that nothing had been found to strengthen the case. There was, however, discovered a book, in which all their receipts and disbursements had been entered by Mr. or Mrs. Degenhardt, an English translation of which he wished to put in to strengthen the evidence against him. The prisoner had acknowledged that the property found on him was his, and had been the result of his savings and speculations. He felt it his duty to ask for further remand, to enable them to hear again from New Grenada. Mr. Games said, it was a question whether there was a title of evidence, or the slightest justification in detaining his client a single moment, under the imputation which had been endeavoured to be cast upon him. With respect to the property found, he should be able to account for ever shilling and shilling's worth, as advances from his friends in Germany, in addition to his own savings, would fully make up the amount.—Mr. Justina said, that in the book he had mentioned, 400l. only was stated to have been received, instead of 1300l. as now attempted to be shown.—Mr. Games said, he could, in the first instance, have put a stop to the case, from want of jurisdiction in the magistrate to deal with it, but he was so convinced of the innocence of the accused, that he wished the most searching investigation to be gone into.—In answer to Mr. Norton, Mr. Games said, he had made the most searching inquiries, and conscientiously believed the whole of the property which was found belonged to the accused.—Mr. Norton remarked, that the character of Mr. Degenhardt must have been very good to have obtained the important position of manager at the mines, and it would be very hard to keep a person with such character, with such a charge hanging over his head, during a period necessary to receive communications from South America. He considered it a strong point in Mr. Degenhardt's favour, and proving that he had trafficked largely in gold dust on his own account—that he had paid the 500l. penalty, and, under all the circumstances, he thought the company had better withdraw the charge, and make the matter a mere debt; and creditor account. The parties withdrew from the court for a few minutes, and on their return it appeared that it was arranged for the solicitors to retain in their hands 900l., to abide the issue of an investigation.—Mr. Degenhardt was spared the pain of standing in the felon's bar on the occasion.

STOPPING THE VENTILATION OF A COLLIERY.—At the Crown Court, York,

on the 14th inst, John Harrison was charged with having, on the 10th March, at Wath-upon-Dearne, in the West Riding, feloniously filled up and obstructed a certain airway belonging to a coal mine, with intent to destroy the said mine, and to hinder and delay the working thereof, the property of John Dobson Charlesworth and others. The indictment was founded on the 7th and 8th George IV., chap. 80, sec. 6, which enacts that if any person shall unlawfully and maliciously fill up or obstruct any airway or shaft of or belonging to any mine, every such offender shall be guilty of felony. It appeared that the prosecutors (the Messrs. Charlesworth) are the owners of the Swinton-park colliery, which extended about 1500 yards underground. In order to convey pure air to this colliery it was necessary to have air passages or pipes to convey air to the men working in the mine, and also to convey away the foul air. On Saturday, the 10th of March last, the prisoner was employed in working in this colliery, at what was called the leading bank, or first bank of the pit. He continued working there till all the men had left, it being then Saturday night. Supposing the air passages to be then stopped up, any escape of foul air in the pit would be confined and become dangerous. It seemed that the practice at the mine was, on every Monday, for the bottom steward of the mine to go down into it before the men with a Davy lamp, in order to see that all was safe. On going down into the pit on Monday morning, the 12th of March, the bottom steward found the safety-lamp indicated danger, and on cautiously examining the air-tubes he found them stopped up with shale. The prisoner did not come to work at the usual time that morning, but an hour afterwards, and on being asked about the shale said, "Oh, he d-d; I did it while I got some wood." On the part of the prosecution it was attempted to show that the prisoner had a diaphanous relative to his work, and that the filling up of the air-holes of the pit was done maliciously. For the defence it was urged that there was an entire absence of malicious motive, which, in order to convict the prisoner, must be clearly proved; it was admitted that he had acted carelessly and in a manner reckless of danger, but had not the design which the indictment imputed. The jury retired, and after an absence of half an hour returned a verdict of "Not Guilty," expressing an opinion that the prisoner had not acted maliciously, but carelessly. An application was made for his discharge, but Mr. Justice Wightman declined to make that order at present.

OPENING OF THE MANCHESTER SOUTH JUNCTION AND ALTRINCHAM RAILWAY.—This short line of railway, from Manchester to the pleasant little Cheshire town of Altrincham (the Hamptoad of Manchester), is to be opened to the public to-morrow. The length is about eight miles, and passes through delightful scenery to a terminus within a short distance of the fine old English park of Dunham Massey, the seat of the Earl of Stamford and Warrington.

ARTIFICIAL ICE—ITS APPLICATION TO SURGICAL PURPOSES.—At the Royal Polytechnic Institution, Dr. Bachoffner has lately been lecturing to crowded audiences on the subject of artificial ice, having chosen to aid him, in illustration, the apparatus lately introduced to the public, and patented by Mr. Masters. The lecturer explained the laws of heat and cold—the latter being merely a negation, and is produced by robbing a body of its sensible heat, and thus leaving it in an opposite condition—a condition always produced when bodies were passing from one state to another more expanded and rare. This principle is taken advantage of by Mr. Masters in the use of his chemical salts and apparatus. Dr. Bachoffner explained, that during the solution of these salts they assume a more expanded condition, and thus require a larger amount

RAILWAYS AND RAILWAY ACCOUNTS.*

Much has been said and written on Railways; but hitherto with little more effect than to render "confusion more confused." It is, therefore, with great pleasure that we hail the publication of this well-timed and well-written letter. Mr. Webb is evidently no mere theoretical or abstract reasoner, but he handles his subject with the confidence and the lucidity of a practical man. He states his more immediate object to be, to restore some suggestions on the course which he conceives would most effectually restore confidence in railway undertakings, by the amendment of the Clauses Consolidation Act, 1845, and by judicious and timely assistance, rather than the imposition of new burdens, which would depress them still further than they are depressed at present. Mr. Webb here clearly alludes to the Railway Audit Bill, to which he is strongly opposed.

But, before we proceed further, there is one point on which we would be inclined to join issue with Mr. Webb. We are scarcely prepared to assent to the following:—

Not only does the public call for Government interference, but a portion of the railway interest joins them; the object of the first being to secure lower fares, and that of the latter the improvement of their property. The objects which both, therefore, have in view are the same—viz.: individual benefit; but it is entirely forgotten that that which would be advantageous to the public beyond what railways at present afford, would in the same ratio be injurious to the railway proprietor; and although the object of both is the same, the effect of a measure they agree in demanding could not be reciprocal.

We are strongly impressed with the opinion that the advantages of railways are not yet fully developed, and we are disposed to think that, under more economical and systematic management, they will be made to yield more profitable returns, and, at the same time, afford cheaper fares to the public. We cannot but believe that a system, only in its infancy, will undergo many radical improvements before it arrives at maturity; it would be contrary to all experience if it did not. Indeed, we think Mr. Webb himself will at once subscribe to this opinion, when we draw attention to another part of his letter, where he refers to the Manchester and Liverpool Railway:—

The estimated cost of the works was 500,000*l.*, and upon such as this estimate covered 500,000*l.* was expended; this did not include the warehouses, and stations for the engines, and carrying plant, which amounted to 200,000*l.* more. Additional capital was afterwards raised. Now, it must be recollected that the fares were fixed on the basis of a fair return on the capital of 500,000*l.*; but, notwithstanding the very considerable increase in the expenditure, no attempt was made to raise the authorised fares, and the company relied on the extension of business to reimburse them the additional outlay. In passing, we may remark that this points as a precedent to the fair and liberal course pursued by railway companies towards the public. The company was not mistaken in its expectations; for, from the first three months' profits, a dividend was enabled to be made of 2*l.* per share of 100*l.*; in the next 12 months after the rate of 9 per cent., leaving then a balance of 5366*l.* in the treasurer's hand, and it has since paid 10 per cent.

And again, on the Stockton and Darlington, he says:—

As in the case of the Liverpool and Manchester, the public derived great advantage by the working of this line; the fares, as between Stockton and Darlington, were reduced 75 per cent.; and not only were the mineral and agricultural products of the country supplied at a cheaper rate to the towns of Darlington, and Stockton, and Yorkshire, but an export trade in coals especially was springing up, that was destined to become of great importance.

Now, all this tends to show that lower fares may be compatible with increased returns. There can be no better proof than that it has been so, and we are by no means convinced that it cannot and will not be so again. We do not profess the doctrine of finality in this matter; but if we were asked why we believed that railways could safely lower their fares gradually to a certain point, we would answer that they would receive a corresponding increase of traffic in consequence, which, coupled with better management, the result of experience, would fully counterbalance these reductions. We would anticipate the future by pointing to the results of the past, and we could not do this better than by quoting from Mr. Webb's letter again:—

But what are the facts attendant on railway progress? Have not railways realised far more than was held out, or expected of them? Have they not been the means of creating trade and commerce in remote, and until the introduction of railways, dormant districts, and of increasing trade and commerce where it already existed? Has not every facility and accommodation been afforded for cheap and speedy transit of passengers and goods? Have railways not been the means of opening up new channels of industry, of giving employment to a vast number of the population, especially among that class which would otherwise, in all probability, have become a charge to the State? Have they not voluntarily reduced their tariffs? And have they not performed their part towards the public in a fair and honourable manner? If we look on either side, we see the great advantages accruing from the introduction of railways, without any of those counterpoising evils which their opponents foretold would result.

Mr. Webb has also taken great pains in compiling a valuable table, to show the extent to which trade has increased since the introduction of railways, and he thus remarks:—

No one can fail to be struck with the rapid increase which these tables show since 1830, and, as a natural inference, to attribute that increase to the only measure which has tended to create it—viz.: the general introduction of railways, the ready and cheap means afforded by them for the transit of merchandise, and the advantages arising therefrom. In the coal trade, we find an increase of 6,200,000 tons between the years 1831 and 1846; and that the iron trade owes its rise altogether to railways; for in the year 1831, only 4023 tons were exported—while in 1846, it had increased to 426,205 tons; that Hartlepool and Stockton, from which no coals were exported in 1831, shipped no less than 1,829,393 tons in the year 1846; and it is not unworthy of remark, that the population of the country has made more progress in those counties where railways are the most numerous. Thus in the county of Durham, which possesses more railroad accommodation than any other county, it increased, according to the last census, at the rate of 27.7 per cent.; whilst Westmoreland, which was altogether devoid of railways, only increased to the extent of 2.5 per cent.

We have thought it our duty to say thus much in apparent opposition to Mr. Webb's opinions, but we must not omit to notice the really valuable points in his letter. Alluding to the cases of mal-administration of companies lately brought to light, he directs attention to several of the provisions of 8 Victoria, cap. 18, to show that a remedy is there provided, and power placed in the hands of the shareholders to counteract such practices. He remarks that all these wholesome and effective provisions appear to have been overlooked by both the directors and shareholders, and as the former have disregarded their strict functions, so have the latter failed to avail themselves of their undoubted right and duty. But he adds:—

In the present state, however, of public feeling it is not enough to show that railway shareholders have, by their own inference, brought the evils of mismanagement on themselves, or that the law gives them a remedy for providing against the publication of falsified statements of accounts; confidence has become so entirely shaken in railways, that some new and comprehensive measure is necessary for placing their management on a better footing, and also for relieving them from their pecuniary difficulties.

Mr. Webb gives the following statement of the railway interest up to the present time, which he considers as correct as circumstances will admit:—

Parliamentary Power granted for the Construction of Railways.

| | |
|---------------------------------|--------------------------|
| From 1801 to 1825..... | £3,520,000 |
| " 1826 to 1844..... | 98,291,897 |
| " 1845 to 1846 (inclusive)..... | 242,971,791=£344,783,688 |

Powers exercised by Railway Companies, as by Parliamentary Returns.

| | Received on account of Calls & Share Capital. | Remaining due. | Loans Raised. |
|----------------------------|---|----------------|---------------|
| 1844 and previous..... | £46,476,972 | £64,112 | £9,124,269 |
| 1845, to August, 1846..... | 85,433,396 | 10,646,894 | 24,719,918 |
| | £131,910,368 | £11,288,006 | £33,844,187 |
| | 11,288,006 | 35,344,187 | |
| | £177,042,561 | | |

Stated by the "Return" as balance of capital uncalled for in 1844 and previous, and up to Aug. 1846, 98,291,897*l.*; balance of money which companies retain power to borrow to Aug. 1846, 42,387,298*l.*; powers granted in session 1846, by share capital and loans, 14,620,471*l.*.....155,289,383

Showing a discrepancy between the "Return" and powers granted by the several Acts, which is accounted for by a reduction in the original capital, and by other causes not stated, of.... 19,451,744=£344,783,688

Consequent upon the large accession of power by companies, considerable progress was made in the execution of railways; and when it is recollected how severely the famine in Ireland, and the speculation in corn and other causes, pressed upon the energies and commerce of the nation, it is surprising to learn the enormous sums expended: thus, in—

| | Was received on account of calls. | Remained due on account of calls. | Was raised by loans. |
|-----------|-----------------------------------|-----------------------------------|----------------------|
| 1845..... | £17,632,701 | £39,216 | £2,391,291 |
| 1846..... | 26,384,253 | 1,210,114 | 6,215,205 |
| 1847..... | 32,467,945 | 4,419,856 | 11,144,177 |
| 1848..... | 8,948,495 | 4,577,708 | 4,969,243 |
| | £85,433,396 | £10,646,894 | £24,719,918 |

He also gives an account of the dividends paid upon different portions of capital invested in railways:—

| | 25 <i>l.</i> 0 <i>s.</i> 0 <i>d.</i> (share capital) paid a dividend at the rate of | 15 per cent. |
|---------------------------|---|--------------|
| 8,117,000 <i>l.</i> | " | 10 |
| 3,705,000 <i>l.</i> | " | 6 to 7 |
| 3,890,000 <i>l.</i> | " | 5 to 6 |
| 5,027,000 <i>l.</i> | " | 4 to 5 |
| 4,671,000 <i>l.</i> | " | 3 to 4 |
| 4,649,000 <i>l.</i> | " | 2 to 3 |
| 1,995,000 <i>l.</i> | " | below 2 |

* A Letter to the Right Hon. Henry Labouchere, M.P., on Railways, their Accounts and Dividends; their Progress, Present Position, and Future Prospects; their Effects on Trade and Commerce; with suggestions for Government assistance. By C. Looock Webb. London: Smith, Elder, and Co., Cornhill; Biggs and Sons, Parliament-street.

But railway communication has been greatly increased since that year. Mr. Webb gives the following statement of the number of miles opened in 1846:—

During the year 1846, an increase was made in the railway communication of this country far exceeding that in any former year, the Commissioners of Railways having sanctioned the opening of 1191 miles in that year (as stated in their last report, May, 1849), of which 751 miles are in England, 289 miles in Scotland, and 151 miles in Ireland—making the whole extent of railway communication at the end of the year 5007 miles; the proportion for England being 3918 miles, for Scotland 728 miles, and for Ireland 361 miles respectively. The receipts for the year were—Passengers, 5,729,382*l.* 1*s.* 1*d.*; goods, cattle, carriages, parcels, mails, &c., 4,213,169*l.* 14*s.* 5*d.*—making a total of 9,942,551*l.* 15*s.* 7*d.*

And we afterwards have an analysis of the dividends declared in February last (1849), which gives the following result:—

| A capital of £ 3,521,325 pays a dividend of | 10 to 8 per cent. |
|---|-------------------|
| 1,318,021..... | 8 7 " |
| 16,658,783..... | 7 6 " |
| 30,119,348..... | 6 5 1/2 " |
| 4,916,868..... | 5 5 " |
| 31,872,564..... | 5 4 " |
| 13,452,800..... | 4 3 " |
| 5,141,054..... | 3 2 " |
| 1,245,000..... | 2 1 " |
| 235,000..... | 1 1/2 and under, |

whilst dividends are suspended on a capital of 4,953,051*l.*

Mr. Webb then enters very fully into the questions of railway management and accounts. He recommends that a committee of three shareholders should be elected at every meeting, to audit the accounts for the ensuing half-year, with a remuneration commensurate with their proper duties; that this committee should be empowered to call for all papers, returns, documents, books, and accounts, all contracts, and, in fine, for everything they may consider desirable to elucidate the balance-sheet, the capital account, the loans, the traffic account, the maintenance account, the cost of working the way, and the reserve fund, upon which they shall be required to make their report, either by confirmation of the directors' statement, or by a separate and distinct report, to be printed with the directors' report, and submitted to the shareholders one month before every general meeting. The committee on one audit not being competent for re-election.

Thus, we should have a full and efficient check on the directors, and an ample assurance to the public for the correctness of the accounts. To recapitulate, the report, embodying the balance-sheet, would give the following particulars:—

The CAPITAL ACCOUNT, specifying the receipts on each call, and the gross expenditure.

The LOAN ACCOUNT, specifying every loan contract, the period for which contracted, with the rate of interest, and showing, moreover, the liquidation of such loans, or portions of them, as may from time to time be made.

The PROFIT AND LOSS ACCOUNT, specifying the net profits of every half-year's working, the amount of each half-year's dividend, the rate per share or per cent., and the amount carried to the reserve fund half-yearly.

The TRAFFIC ACCOUNT, specifying the sources from whence derived, and the charges on the same in detail.

The GENERAL BALANCE SHEET, specifying in detail the receipts and expenditure of the preceding half-year, and the net sum applicable to dividend.

The ASSETS AND LIABILITIES ACCOUNT, specifying fully the estimated value of the plant, and the outstanding accounts. And, Sir, wherefore, may I ask, would then be the necessity for Government auditors? Surely there must be some strong argument why parties outside the railway should be forced upon them to exercise their power to review and control their financial operations. It may be, that it would be an economical interference; or it may be, that works undertaken by Government have been carried out with such admirable discretion and financial skill, that it is desirable railway companies should avail themselves of their help; or it may be, that looking to the scrupulous care and economy in the management of the several departments of State, a lesson may be learnt from the Government school; or, it may be, that from the lead which Government has always afforded in the management of railways, or to the general Government offices; the moderate salaries of the officers in the several departments, and the disinterested and impartial manner in which these officers, chosen for their individual merits and abilities, are selected to fill their posts! I leave the public to judge of the strength of these reasons, and to anticipate the selection of auditors which would be made by Government for railways. Unhappily, however, we look in vain to find honour done to any one of those great men who have laboured in the progress of railways, whose names will receive applause from posterity, men, who will be accounted to the page of history as the ornaments of their profession, and the glory of their country. In the present state of the nation, the moderate salaries of the officers in the several departments, and the disinterested and impartial manner in which these officers, chosen for their individual merits and abilities, are selected to fill their posts! I leave the public to judge of the strength of these reasons, and to anticipate the selection of auditors which would be made by Government for railways. Unhappily, however, we look in vain to find honour done to any one of those great men who have laboured in the progress of railways, whose names will receive applause from posterity, men, who will be accounted to the page of history as the ornaments of their profession, and the glory of their country.

We look in vain for honour paid by the Government to Stephenson, Brunel, Rennie, Locke, Cubitt, Rendall, Errington, Whishaw, Hawksshaw, Grainger, Bidder, or any of the numerous engineers, who have distinguished themselves in civil or mechanical engineering, or to the many of the nobles, and, in fine, to the several Government officers; the moderate salaries of the officers in the several departments, and the disinterested and impartial manner in which these officers, chosen for their individual merits and abilities, are selected to fill their posts! I leave the public to judge of the strength of these reasons, and to anticipate the selection of auditors which would be made by Government for railways. Unhappily, however, we look in vain to find honour done to any one of those great men who have laboured in the progress of railways, whose names will receive applause from posterity, men, who will be accounted to the page of history as the ornaments of their profession, and the glory of their country.

Although we cannot give our unqualified assent to several of Mr. Webb's arguments, yet undoubtedly many of his remarks are well worth considering. He treats his subject as one who is evidently conversant with its details, and we think that, on the whole, the railway interest is much indebted to him.

The Chester and Holyhead Railway, and its Prospects. By WM. MORGAN (a shareholder). London: H. Hughes, St. Martin's-le-Grand.

The object of the writer of this small pamphlet is to bring before the shareholders the importance of the line, and notwithstanding the cost of the undertaking, that it will eventually be remarkable for the extent of its traffic; and he strongly urges them, as the prospects are now of a most hopeful and cheering character, not to part with their shares at the present price, which is not more than one-sixth of their real value. In his few remarks on the character of the works he says—"In its course it divides broad estuaries, it penetrates the bowels of the loftiest mountains, and the hardest rocks have succumbed to the irresistible energy of human action and scientific skill; it crosses the important navigable rivers of Conway and the Mersey Straits, by means of immense iron tubes at such an elevation as not to impede the progress of the largest vessels. Indeed, we may safely say, that there is not a line in England which links together interests of greater importance in a social, political, and commercial point of view, than this railway."

INSTITUTION OF LEGAL PROCEEDINGS AGAINST MR. HUDSON.—A special meeting of shareholders in the York, Newcastle, and Berwick Railway Company, postponed by repeated adjournments since May last, was held in York, on Thursday, to receive the report of the committee of investigation. In this report, the following extraordinary charges, which were partially stated in an *interim* report, are substantiated:—1. That he had purchased 2345 shares of the Sunderland Dock Company more than the company had authorised him to do, and that he had charged them to the company without their knowledge or sanction, which the committee recommended the shareholders to repudiate.—2. That he had taken for his own use from the Newcastle and Berwick Company the extraordinary number of 10,394 shares, by which he had realised a profit of 145,704*l.*, while the other directors appropriated to themselves 100 shares each. The committee condemning both these proceedings, recommended the shareholders to reclaim the shares from Mr. Hudson, giving him credit for 100 shares, but do not advise any proceedings against the other directors.—3. That the directors, being empowered by a public meeting to dispose of 2000 Brandling Junction shares, handed them over to Mr. Hudson. As it seemed to be understood that it was the intention of the meeting to give Mr. Hudson these shares, the committee gave him the benefit of the doubt, and did not recommend any proceedings to be taken thereupon.—4. That Mr. Hudson had been interested in a contract for the supply of iron rails to the company, and realised a profit upon it of 38,500*l.*, a contract which he must have known to be illegal.—And 5. That Mr. Hudson had applied cheques for payment for land to the extent of 41,000*l.*, and cheques for "works" to the extent of 40,000*l.* to his own purposes, which sums, however, he had since repaid with interest. There was a very general feeling of indignation against the conduct of Mr. Hudson, and equally so against the other directors, for giving up implicitly the direct on of affairs to him, and bowing down to the golden calf as they had done. Among the speakers on this subject Mr. Wylie was the most straightforward and characteristic; he said he would not hesitate or shrink from declaring his honest opinion; he would say to the directors, face to face, he was glad they were present, as he should not have spoken so freely in their absence, but he would tell them that they had been guilty of very grave misfeasance; that their conduct had been characterised by a degree of subterfuge, which was disgraceful to them as gentlemen. He confessed, when he looked at their conduct towards that man Hudson, when he saw them so anxious to pick up the crumbs which fell from that rich man's table, he looked upon their conduct as alike disgraceful to themselves and to their country. In considering the report, each subject was discussed separately, and each portion was adopted unanimously. Mr. Thompson, of Moss Hall, directors.—3. That the directors, being empowered by a public meeting to dispose of 2000 Brandling Junction shares, handed them over to Mr. Hudson. As it seemed to be understood that it was the intention of the meeting to give Mr. Hudson these shares, the committee gave him the benefit of the doubt, and did not recommend any proceedings to be taken thereupon.—4. That Mr. Hudson had been interested in a contract for the supply of iron rails to the company, and realised a profit upon it of 38,500*l.*, a contract which he must have known to be illegal.—And 5. That Mr. Hudson had applied cheques for payment for land to the extent of 41,000*l.*, and cheques for "works" to the extent of 40,000*l.* to his own purposes, which sums, however, he had since repaid with interest. 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Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

| | |
|-----------|---|
| MONDAY | Runnall's Coal Mining Company—Black Eagle, Woolwich, at Five. |
| TUESDAY | South Metropolitan Cemetery Co.—London-bridge House Hotel, Eleren. |
| WEDNESDAY | Glen-Omness Mining Company—offices, at half-past Two. |
| THURSDAY | Commercial Bank of London—offices, at One. |
| FRIDAY | United Mexican Mining Association—offices, at One. |
| SATURDAY | Sambre and Meuse Railway—London Tavern, at One. |
| SUNDAY | Alfred Life Assurance Company—offices, at One. |
| MONDAY | Copple Mining Company—offices, at One. |
| TUESDAY | Catholic, Law, and General Life Assurance Co.—offices, at Twelve for One. |
| WEDNESDAY | Wharfedale Mining Company—at the mine. |
| THURSDAY | Swansea Dock Company—Railway Hotel, Blackfriars, at Twelve. |
| FRIDAY | Australian Trust Company—offices, at Twelve. |
| SATURDAY | Namur and Liege Railway—London Tavern, at One. |

(The meetings of Mining Companies are inserted among the Mining Intelligence.)

LONDON AND WESTMINSTER BANK.

The half-yearly meeting of proprietors was held at the offices of the company, Lothbury, on Wednesday, the 18th inst.

THOMAS CHAPMAN, Esq., F.R.S., in the chair.

After the usual preliminaries, the following report was read:—

The directors have to report that the net profits of the bank, during the last half-year, have amounted to £3,729,174. 4d. Out of these profits they now declare a dividend, at the rate of 6 per cent. per annum. After the payment of this dividend, there will remain the sum of £2,729,174. 4d. to be added to the surplus fund, which will then amount to £108,452,145. 3d.

London and Westminster Bank—30th June, 1849.

| | | | |
|---|------------|----|----|
| Dr.—To proprietors for paid-up capital | £1,000,000 | 0 | 1 |
| To amount due by the bank for deposits circular notes, &c. | 3,392,857 | 3 | 7 |
| To rest, or surplus fund | 102,728 | 16 | 11 |
| To profits of the past half-year | 32,729 | 17 | 4 |
| Ca.—By Government stock, Exchequer Bills, and India Bonds | 964,800 | 13 | 7 |
| By other securities, including bills discounted loans to customers, &c. | 3,010,867 | 15 | 2 |
| By cash in hand | 592,642 | 9 | 1 |
| | £4,528,310 | 17 | 10 |

Little discussion of interest followed the report, which, together with the accounts submitted, were unanimously adopted; but it was stated that the branches continued to work favourably, and that the business of the bank was steadily increasing. The CHAIRMAN mentioned, in the course of some observations, that the joint-stock banks continue to be excluded from the privileges of the clearing house, but that he hoped the time was approaching when the private bankers would relax their prohibition, and admit them to the advantages of that system. One question suggested for the consideration of the board, and to which they promised to give attention, was the settlement of a limit to the reserved fund, so that any excess might at the proper period be distributed among the proprietors. The London and Westminster Bank now possesses a paid-up capital of £1,000,000.

LONDON JOINT-STOCK BANKING COMPANY.

The half-yearly meeting of this company was held on Thursday last, at the establishment, in Prince's-street, Bank, for receiving the report of the directors.

WILLIAM JAMES LANCASTER, Esq., in the chair.

MR. F. HEWITT (the secretary), read the following report and balance sheet:—The annexed accounts, which the directors have the pleasure to lay before the shareholders, will inform them that the net profit realized by the bank during the six months ending the 30th June last, amount to £3,433,144. 1d.; and that the sum of £18,000, being appropriated to the half-yearly dividend at the rate of 6 per cent. per annum, there remains a balance of £3,415,144. 1d. undivided profit, to be disposed of at the end of the year. The dividend, free from income tax, will be payable on and after Friday, the 27th inst.

Liabilities and Assets—June 30th, 1849.

| | | | |
|---|------------|----|---|
| Dr.—To capital paid up—viz., 60,000 shares at 10s. each | £ 600,000 | 0 | 0 |
| To amount due by the Bank | 2,506,891 | 15 | 2 |
| Amount of "Guarantee Fund," Dec. 31, 1848 | £128,765 | 0 | 6 |
| Six months' interest on ditto, at 3 per cent. per annum | 1,931 | 9 | 6 |
| Balance carried to profit and loss account | 57,580 | 18 | 0 |
| Total | £3,293,169 | 3 | 2 |

| | | | |
|--|------------|----|----|
| Ca.—By Exchequer Bills, India Bonds, &c. | £ 686,703 | 13 | 11 |
| Bills discounted, loans, and cash | 2,579,965 | 9 | 3 |
| Building, furniture, &c., in Prince's-street | £18,500 | 0 | 0 |
| Ditto "ditto" in Pall Mall | 10,000 | 0 | 0 |
| Total | £3,293,169 | 3 | 2 |

Profit and Loss Account, for the half-year ending June 30th, 1849.

| | | | |
|---|---------|----|---|
| Dr.—To current expenses, proportion of building expenses, directors' remuneration, bad debts, income tax, &c. | £17,072 | 16 | 6 |
| Amount carried to profit and loss, new account, being rebate of interest on bills discounted not yet due | 7,074 | 7 | 3 |
| Dividend account for the payment of half-year's dividend, at the rate of 6 per cent. per annum, upon £600,000, amount of paid-up capital upon 60,000 shares | 18,000 | 0 | 0 |
| Balance, being undivided profit for the half-year | 15,433 | 14 | 1 |
| Total | £37,580 | 18 | 0 |

| | | | |
|-----------------------------|---------|----|---|
| Ca.—By balance brought down | £37,580 | 18 | 0 |
|-----------------------------|---------|----|---|

The CHAIRMAN said he would now, with the authority of the board of directors, declare a dividend for the half-year, after the rate of 6 per cent. per annum on the paid-up capital of the bank. He then moved that the report now read be received and printed for the use of the shareholders.

The DEPUTY-CHAIRMAN seconded the motion. MR. BORDDALE asked if that guarantee fund, which now amounted to £18,000, were to go on increasing, or whether the interest of that fund would, after a certain period, be added to the profits of the bank? At the London and Westminster, when they had realized £100,000, it was thought that the time had not yet arrived; but the position of the London Joint-Stock Bank was quite different, for they had a fund of £180,000. (Hear, hear.)

G. H. FOSTER, Esq. (a director), said it was the duty of the directors to add interest upon the guarantee fund at the rate of 3 per cent. per annum; it must go on accumulating at that rate, for they could not take the interest towards an increased dividend.

MR. DEPUTY CORNEY thought the question had better be left over till the next meeting. He thought the directors would be inclined to stand by the opinion of the proprietors, that a sum of £120,000 should be the maximum for a guarantee fund, and that they would, therefore, divide any surplus.

A. MOORE, Esq. (a director), said if the hon. proprietor were flatter himself that he would see that £10,000 distributed, in addition to any other bonus that might arise, he would be disappointed. (Laughter.) By the deed, it must accumulate by its own interest of 3 per cent.; it was, therefore, only by an alteration of the deed that the proprietors could get a larger dividend.

MR. SAMBOUR looked upon their guarantee fund as a security for their dividend, and giving increased value to their property. There were many ladies, especially, who would prefer a certain and regular dividend, secured by a guarantee fund, to a much larger one that had no such certainty. (Hear, hear.) He thought there would be no harm in letting it go on to £200,000, for the larger the sum the greater the security to themselves. He spoke this as one who held his shares as an investment, which he hoped to hand over to relations hereafter as something certain. (Hear, hear.)

A PROPRIETOR thought it was no security whilst it was employed by the bank; it would be a security when the question came to be settled that the guarantee fund should be invested.

G. H. FOSTER, Esq., said it was a security, because they could go to that fund, in case of need, to make up their dividend of 6 per cent. (Hear.)—The report was then agreed to unanimously.

A vote of thanks was then passed to the chairman and directors. The CHAIRMAN returned thanks, and said that the directors never considered any application too close, or any labour too arduous, to enable them, at their periodical meetings, to lay such accounts before the proprietors as would justify their confidence. (Hear, hear.)—A vote of thanks was also passed to Mr. George Pollard (the manager), when the meeting adjourned.

UNION BANK OF AUSTRALIA.

The annual meeting of this company was held, on Monday, at the bank in Old Broad-street, J. J. CUMMIS, Esq., in the chair.

The SECRETARY (Mr. Jackson) read the report, which stated that, since the last half-yearly meeting, the inspector had visited all the branches, and had expressed his admiration of the excellent condition of each, as well as of the prudence and good conduct of the several managers. The low price of wool in the mother country had caused much depression amongst the colonists, but had not disturbed the credit of the colony. The inspector spoke of the great increase of enterprise, and the growing importance of Australia. In Hobart Town the trading operations were very important, and as many as 40 vessels at a time had been entered in the harbour. Shipbuilding was also making great progress. The accounts from New Zealand were satisfactory, and at Wellington and Auckland the branches were generally profitable, and things bore the most cheering aspect. At Adelaide, in South Australia, a branch was about to be opened. The profits of the year enabled the directors to make the usual dividend of 6 per cent. per annum on the entire paid-up capital, and a further bonus of 5s. a share on the 32,000 shares paid up, and in like proportion on the 22,100 paid up on 8000 shares.

The CHAIRMAN dilated on the topics of the report, and complimented the proprietors on the satisfactory position of the bank.

MR. HICHENS enquired what was the amount of Government stock held by the bank?—The CHAIRMAN replied, the same as at the last meeting—namely, £110,000. It had not been advisable to sell at present.

J. Dawson, R. Brooke, and R. Gardiner, Esqrs., were elected directors. MR. BUCKLE moved the adoption of the report, which was seconded by Mr. JAMES, and passed unanimously. On the motion of Mr. JAMES, seconded by Mr. GRAHAM, a vote of thanks was passed to the chairman and directors, and to the various officers of the establishment, when the meeting broke up.

ST. KATHARINE DOCK COMPANY.

The half-yearly general meeting of the company was held on Tuesday, the 17th inst., in the Dock House, Tower-hill, for the purpose of declaring a dividend for the half-year, ended the 30th of June last, and for the election of 21 directors for the year ensuing.

THOMAS TOOKES, Esq., in the chair, who opened the business, and adverted to the purposes of the meeting, as described in the notice convening the same, which had been published in the *Gazette*, and in the usual morning and evening papers.

The CHAIRMAN observed that, according to the provisions of the Dock Act, the accounts of receipts and expenditure were laid before the proprietors only at the annual meetings held in the month of January in each year, and inasmuch as the amount of dividend for the preceding half-year, at that time agreed upon, was understood to govern the dividend to be declared at the half-yearly meeting in July following, the directors had merely on that occasion to propose that a dividend be declared, the same in amount as in January last—viz., 2 per cent. for the half-year ended the 30th June last, on the capital stock of the company, and upon the instalments paid on the additional stock subscribed for; and it was further proposed that the amount of income tax payable on such dividends be defrayed by the company, the dividend to be payable on Monday, the 29th inst., and following days, Sundays and holidays excepted; a resolution to that effect was thereupon submitted, and unanimously agreed to.

The next subject submitted to the consideration of the meeting was the ballot for 21 proprietors as directors for the year ensuing, and the appointment of scrutineers, who were appointed accordingly; but, prior to proceeding with the ballot, the Chairman briefly referred to the abstracts of returns of shipping with cargoes that had entered the port of London during the six months ended the 5th July inst., in the present year, with a comparative statement for the corresponding period in 1848, and similar returns of the ships, and of their registered tonnage, that had entered the St. Katharine Docks, and of goods landed therein during the half-years referred to, and quantity of goods in warehouse on the 30th of June, 1848, and present year, which returns were upon the table for the information of the meeting, and of which the following is a copy:—

TRADE AND NAVIGATION.

PORT OF LONDON.

Return of the number of ships, and of their registered tonnage, that entered the port of London with cargoes from foreign parts, distinguishing the British from the foreign ships, during the half-years ended 5th July 1848 and 1849:—

| | 1848. | 1849. | 1848. | 1849. | 1848. | 1849. |
|---------|-------|---------|-------|---------|-------|--------|
| Ships. | Tons. | Ships. | Tons. | Ships. | Tons. | |
| British | 2671 | 585,171 | 3138 | 617,419 | 434 | 32,248 |
| Foreign | 1286 | 175,392 | 1388 | 180,054 | 132 | 4,044 |
| Total | 3957 | 760,563 | 4526 | 797,473 | 566 | 36,292 |

Shipping and Tonnage—St. Katharine Dock, six months ended June 1848 and 1849.

| SHIPS WITH CARGOES. | | | | SHIPS ENTERED LIGHT TO LOAD. | | | | TOTAL. | |
|---------------------|----------|--------|--|------------------------------|--------|--|----------|--------|--|
| Six months. | Ships. | Tons. | | Ships. | Tons. | | Ships. | Tons. | |
| 1848 | 296 | 69,053 | | 117 | 16,922 | | 413 | 85,975 | |
| 1849 | 298 | 68,051 | | 128 | 22,034 | | 426 | 90,085 | |

Increase total in 1849—13 ships and 4110 tons.

Increase total in 1849—13 ships and 4110 tons.

Merchandise—St. Katharine Dock.

| | 1848. | 1849. | 1848. | 1849. | 1848. | 1849. |
|---|-------|--------|---------------|--------|-------|-------|
| Landed during six months ended June 30. | Tons. | Tons. | Less in 1849. | | | |
| Six months. | 1848 | 52,377 | 1849 | 48,247 | 4330 | |

Stock in warehouse on June 30, 1848, 62,867 tons.

" " " " 1849, 57,049 "

Loss in 1849, 5,847 tons.

The view presented by these returns of the business of the docks in the last six months, as compared with the corresponding period in 1848, was not so favourable as might be wished. The most ready explanation which could be given of the cause of the comparative falling off is, that the commercial disasters of 1847 fell in a larger proportion upon the connections of these docks than on those of rival establishments in the port. Efforts had since been made to strengthen the connection by the admission of new directors, from the extent of whose business and influence they were led to hope for a considerable accession of shipping and merchandise to these docks. There was a further ground worthy of consideration in judging of the prospect of improvement. The first and last six months of particular years have, in some instances, differed very considerably in amount, and, in the majority of cases, the latter six months have been better than the first six months of the year. It is not at all, therefore, out of reasonable probability, that the half-year now entered upon may offer an improved result, so as to bring the amount of business of the whole of the current year to a level, at least with that of last year. The experience of the time that has elapsed since the 30th of June last is too short to build much upon, but as far as it goes it is favourable, the landings and the stock goods in warehouse having improved within that time by upwards of 1800 tons. In conclusion, the chairman proposed the resolution for the appointment of scrutineers, and the following are the names of the 21 proprietors who were elected directors for the year ensuing:—Messrs. George Peckes Barclay, Chas. Dashedwood Bruce, John White Cater, Alexander Colvin, Benjamin Cohen, William Gladstone, John Hampden Gladstone, George Carr Glyn, M.P., Chas. Pascoe Grenfell, M.P., John Benjamin Heath, Joseph Henry, John Hodgson, John Gellibrand Hubbard, Robert McCalmont, John Horsley Palmer, Manuel Perez, Francis Pegler, William Eys, William Thompson, Alderman and M.P., Thomas Tooke, and Thomas Weeding. The chairman having intimated that the arrangement of the proceedings of the meeting had been adopted for their convenience, it was not to preclude any proprietor from making observations, or asking for information, when a prolonged discussion arose upon a proposal from a proprietor to print and publish the periodical accounts of the company, for the purpose of being circulated amongst the proprietors, and a motion to that effect was made and seconded, but it received the support only of three of the proprietors, which included the mover and seconder, as it appeared that in the month of January in each year the accounts of the company for the year preceding were open to the inspection of the proprietors during 14 days prior to the general annual meeting.

A resolution of thanks was then proposed to the chair, and the rest of the directors, by Alderman FARNSCOMBE, the Lord Mayor elected, seconded by Mr. EDWARDS, and carried unanimously, when the meeting broke up.

THE ST. KATHARINE WHARF.—The St. Katharine Dock Company have granted a lease, for a number of years, to the General Steam Navigation Company of the wharf and premises adjoining thereto, forming the river front of the south-west portion of the dock premises, well-known as the St. Katharine's Steam Packet Wharf, for the landing and embarking of passengers.

THE STEAM-SHIP, "GREAT BRITAIN."—The directors of the concern to which this leviathan steam-ship originally belonged are again offering her for sale by tender. The former transfer for £20,000, appears, therefore, to have gone off. The *Great Britain* now lies dismantled in the docks of Liverpool.

STEAM NAVIGATION IN INDIA.—A deputation of gentlemen, consisting chiefly of merchants connected with India, and officers of the Honourable Company's service, had an interview on Thursday with the chairman and deputy-chairman of the Honourable East India Company, to impress upon them the importance of opening up the cotton districts of the Deccan, and our newly-acquired territory the Punjab, by means of steam-boats of an improved construction, to ply on the rivers, as recommended by Mr. Bourne, C.E. These vessels are expected to carry a large cargo on a draft of water not exceeding 12 inches, at a high rate of speed, and with a capability of surmounting shoals and quicksands, so as to ply night and day without interruption. The deputation was most favourably received, and it is understood that the subject suggested by them will be brought under the early consideration of the court of directors.

STEAM COMMUNICATION WITH AUSTRALIA.—A deputation on this subject, consisting of Earl Talbot, Lord Lyttleton, Lord Polwarth, Mr. Divett, M.P., Hon. F. Scott, M.P., Mr. Mark Boyd, Mr. De Salis, Mr. Logan, Mr. Jackson, and Mr. Clifford, had an interview with the Chancellor of the Exchequer and the First Lord of the Admiralty, on Tuesday, at the official residence of the Chancellor of the Exchequer.

RAILWAY COMPENSATION CASE.—A special jury was empanelled at the Swan Inn, Wolverhampton, to assess the sum to be paid to Messrs. T. and J. More, colliery owners of Tividale, Rowley Regis, for the value of an acre of land required for the Stour Valley Railway, and was one among many cases which we have seen, where the cupidity of parties completely defeats their own object—that of obtaining an exorbitant price for their land. In this case the company had offered £400, and to purchase peace had afterwards increased it to £500; the owners demanding £400 for the acre of land, and £2400 for the injury to their colliery by the severance. It was proved, however, that the demand was exorbitant and illusory, that the whole of the thick coal had been got at the existing pits, though the owners pretended they could get it cheaper by sinking new pits on the land in question, which the company's counsel showed would cost more than the minerals were worth. The Under Sheriff having summed up, the jury gave a verdict for £500 for the land, and nothing for the severance, being £500 less than the company's offer, and £2400 less than the demand.

FOREIGN INTELLIGENCE.

SOUTH AUSTRALIA.—An arrival from Adelaide, yesterday, brought us news to the 17th February, three days after that published in the Journal of the 7th inst.—later than which, however, had previously been received by the Overland Mail. We learn that very little change had taken place in the share market—indeed, scarcely any business had been done since our last report. "Burra Burra" may be called 1500; but there are neither buyers nor sellers. A sale has been reported at 1600, three months; on those terms, 1650 is now asked. Belvideres continue firm, and are certainly a favourite stock; two directors have just visited the firm, and report that four men, during the last letting, had broken 50 tons of rich argentiferous ore. This is valued at 6000; and the take being at 1s. 6d., is considered likely to leave the company about 5500, clear. The following may be quoted as selling prices at three months:—Port Lincoln, 54.5s.; Princess Royals, 20s.; North Kapunda, 17.6s.; Mount Remarkables, 10s. 10s.; Adelaide, 1s. 10s.; Prince Alberts, 1s. 10s.; Enterprise, 4s. 10s.; Wheel Gawlers, 18s.; Faringas, 2s. 6s.

CALIFORNIA.—Letters from the United States, by the *America*, report that gold continued to arrive in considerable quantities from California, and large sums had been remitted to Valparaiso, some of which was for American account; but the late news from San Francisco, by way of Mexico, was very unfavourable. These dates are to the 18th May, when the country was reported in a miserable condition, both life and property being alike unsafe. The rainy season had set in, and the placers were covered with water; everything was more plentiful than gold dust. A number of vessels had arrived, and were still arriving with goods, which could be purchased nearly as cheap as at the United States. A great many persons had arrived at San Francisco, and were in a miserable condition, there being no houses to shelter them, and many had landed without a dollar in their pockets.

A correspondent at Philadelphia (July 3) writes—"We have later intelligence from California, some of the details of which, I regret to say, are of a disastrous character. Anarchy and riot are said to prevail at San Francisco, and it is positively asserted that General Smith had been frustrated in every endeavour to restore order, and finally compelled to seek safety on board a vessel of war, or some other American vessel in the harbour. Several persons had been killed, and it is added, 'neither life nor property is safe, even in San Francisco. Bloody work is anticipated between the Americans and foreigners, both at the diggings and in the town.' The population is of the most motley description and character, and its different characteristics and features are thus happily hit off by a California correspondent of the *New York Express*, who writes directly from the gold region. He says:—"We have great times at the 'diggings' where all the world has its representatives! Oval-faced Chinese, greasy Sandwich Islanders, 'whole or none' men from '44', skintunt Yankees from down East, chivalrous gentlemen from 'off South', Hoosiers, Buckeyes, and Kangaroos, from out West. Here, too, without number, are the subjects of her Britannic Majesty, cheek by jowl with the people who come from the territories of the King of the Cannibal Islands. All are scraping and scratching away, like so many hens on a dunghill; all the languages are spoken and taught; about every religion under the sun has its devotees, but all bow down before the shrine of Mammon, the God that has the sincerest and most enthusiastic worshippers—next to the Golden Calf."

Relative to the receipts of Californian gold at the United States Mint, a Philadelphia journal says—"As our readers are all interested, more or less, and particularly so at this time, in everything relating to Californian gold, we present, for their information, the subjoined statement, prepared for and furnished to us by Col. J. R. Snowden, treasurer of the Philadelphia Mint. The amount of Californian gold received at the Mint of the United States in this city for coinage up to June 28, is as follows:—Total ounces, about 58,458—equal in value to about \$1,050,000—a considerable portion of which has been received by the recent arrivals from that country. The valuation is made at \$18 the ounce. But little of the last lot of gold, brought by the *Crescent City*, has, so far, reached the Mint."

The *Liverpool Mercury* publishes a letter from Capt. L. H. Thomas, late of the *Laura Ann*. He was compelled to dispose of his vessel at San Francisco, and came away in the *California*. He bears out the statements of the hardships which many have endured; he states that wages were still very high, while provisions were comparatively reasonable; beef might be had at 10d. to 1s. per lb. He states that few occupations would pay there better than a market gardener, the want of vegetables and fruits being much felt. He describes the climate of San Francisco as very healthy, the winters mild, frost and snow seldom experienced, and in summer the thermometer ranges from 56 to 70. He left eight specimens of gold with Mr. Warburton, master of the *Liverpool Exchange News-room*, the whole weighing 20 ozs. 11 dwts.

Vague, and no doubt deceptive, statements of mineral riches in the United States and elsewhere still abound, as a natural consequence of the California excitement. A brig from New Grenada, just arrived, has brought among her cargo "a bag of virgin silver, dug from the earth in that country," and the lead mines at Little Rock, in Arkansas, are now "found to possess a large proportion of silver, and it is believed will ultimately prove to be the richest silver mines ever discovered."

IMPROVEMENTS IN SEPARATING GOLD FROM THE ORE.—Mr. J. Babbitt, of Boston, Massachusetts, has obtained a patent for this purpose, of which he gives the following description:—"The nature of my invention consists in the causing of the gold or silver which is to be separated from the ore, or from other foreign or extraneous matter with which it is mixed or combined, to form an alloy with lead, instead of amalgamating these metals by means of mercury, as has heretofore been practised, and this effect by taking the ore of the metal, duly pulverized and washed, or pulverized only, as may be found most convenient, in which I govern myself according to the nature of the ore and other attendant circumstances; or I take the sweepings of other admixtures of the precious metals, and prepare them by burning, washing, or other known means, for the more easy combination of the contained metal, or metals, with the lead.—Claim: What I claim as my invention, and desire to secure by letters patent, is the exposing of the ore or ores, or combination or admixture of the precious metals with foreign materials, together with metallic lead, and charcoal, sal ammoniac, or other flux, in closed vessels, in which the whole may be subjected to red-heat, for the purpose of causing the precious metal, or metals, to combine with the metallic lead, instead of amalgamating the same with mercury, for the purpose and substantially in the manner set forth, without intending to confine myself to any particular mode of constructing the apparatus used, but to vary this as I may think proper, whilst the principle of operation remains the same. In the apparatus, I claim, in combination with the vessel containing the molten lead, and provided with an aperture for the discharge of the impurities, and another for the discharge of the lead, the rotating plate, provided with the hollow arbor for the supply of the ore, &c., and with the teeth for carrying the ore towards the periphery, substantially as set forth. And finally, I claim the method, substantially as herein set forth, of charging the apparatus with the ore, &c., without admitting air, in combination with the method of carrying the ore, &c., through the apparatus, and over the surface of the lead in the vessel, as described."

MANUFACTURE OF GOLD.—Under the head "Gold made by Art with loss to the Workman," Gabriel Plattes, in his *Discovery of Subterranean Treasure*, gives an account of his transmutation of iron and copper to gold. As this is divested of the mystic jargon of the alchemists, and written in perfectly plain language, we have thought it might not be uninteresting to those of our readers who have lately made experiments in the chaballistic science. His formula is this:—"I took 8 ounces of regulus of iron and copper, made as beneath is declared, and 16 ounces of common sublimate, bought at the apothecaries, and made these ingredients into a fine powder: first severally, and then I ground them well together, upon a marble stone, and so put them into a retort of a glass, and drew from them, first an oil, then a substance like butter, and lastly a yellow sublimate, tinted with the tincture of iron and copper, which yellow sublimate I rectified three or four times, till it was very pure; then I mixed it with equal parts of an amalgam of silver and quicksilver, made as beneath is taught, and put it into another retort of glass, and forced away all but the silver, which remained like yellow horn; this yellow silver I amalgamated again with new quicksilver, and set it in a gentle heat above a week; then in a very strong heat for six hours, so that the quicksilver rose up and fell down again upon the silver, till such time as it had carried up all the silver from the glass into branches, like trees; then I melted down the silver, and fined it, and parted it with aqua fortis, and had divers grains of pure and good gold abiding all trials, but the quantity would not pay for half the charge and labour. I made the regulus thus: I took 4 ounces of iron in stub nails, and made them red hot in a crucible, and then I put to it 8 ounces of crude antimony, and melted it down; and when it was well and thin melted, I let it cool in the pot, and so knocked off the regulus from the top or cinder which lay upon the top of it; then I did the like with 4 ounces of copper in thin plates, and then I mixed equal parts of these two, and melted them three or four times, every time casting into the pot half an ounce of saltpetre, as it was melting, to purify it, till it was pure and bright, almost like silver, but yet brittle, so that I could beat it in a mortar to fine powder. The yellow silver that was like yellow horn did amalgamate with much difficulty and grinding with salt and vinegar, and some of it was lost, do what I could; but the first silver was water silver, which I bought at the refiners, out of which they had taken all the gold before; this did amalgamate very easily; then I strained it to a ball through a leather skin, and so mixed it with the yellow sublimate that was tinted yellow with the tincture of iron and copper. The proportion of the quicksilver to the silver was five or six parts to one. If any one doubt the truth of alchemy, he may be satisfied by this trial; but instead of gain, he shall pay for his learning by going away with loss. But if any one will uphold me as good a seer, or purchaser of land, as I can prove by credible records hath been had in former times, for an ounce of gold, I will undertake to make an ounce of gold, not having more pay for it, yet have a good bargain."—*Esperio crede*.

[The Commissioners of Inland Revenue having notified to us their desire to charge the advertisement duty all reports having the agents' names affixed, we appealed to them in a memorial, setting forth that we, or the respective companies, derived no advantage therefrom—the only object sought, or obtained, being that of affording to the mine adventurer and public the greatest guarantee we could for the truthfulness and *bona fide* nature of the statements periodically set forth, by authenticating them, and thus fixing a responsibility on the agents, and that the "protection" thus afforded to the companies was no alternative but submitting to their dictum. How far the Commissioners are correct in the view they take, our readers can judge as well as ourselves—we can but hope that, on reflection, they will see the error into which they have fallen, and rescind the orders they have issued. We have no objection to the agents' names being published, and will guard against the publication of statements which cannot be relied on as correct.]

ALFRED CONSOLS.—The lode in Field's engine-shaft, sinking under the 50 fm. level, is 6 ft. wide, and the ore course, on the south part, is from 18 in. to 3 ft. wide, good saving. In the 50 fm. level, west of engine-shaft, there has been no lode broken for the last week; the lode in the 50 fm. level east is without change, neither is there any change in any other part of these mines. I have not seen the lode in the shaft to-day, the water being in, owing to a small breakage, but Capt. Hosking says the lode is still in the shaft.

BARRISTOWN.—The lode in the adit end driving south is at present cut off by a slide. The lode in the back of the adit level, west of slide, is looking rather better, producing in parts 15 cwt. of lead per fn. The stopes in the bottom of the adit level are looking much the same as last reported, producing from 10 to 15 cwt. of lead per fn.

BEDFORD UNITED.—At Wheal Marquis, the lode in Burley's winze, in the 90 f. level, remains without alteration. In Crew's winze, in this level, the lode is worth about 3 tons of ore per fn. There has been no lode taken down in the 90 f. level. The lode in the 79 f. level cast is 3 ft. wide, producing good stones of ore, and very kindly.

CALLINGTON.—In sinking Kelly Bray engine-shaft below the 32 fathom level, the lode is still in a disordered state. In the 30 fm. level, east of Kelly Bray shaft, the lode is still producing good stones of fine, blue, copper ore. In the 50 fm. level, east of Kelly Bray lode, the lode is 2 ft. wide, with spots of copper ore. In the 70 fm. level, east of Kelly Bray lode, the lode is 2 ft. wide, producing good saving work for copper ore—the indications in this level are of a promising nature. The 90 fm. level west, on Kelly Bray lode, is producing good stones of copper ore. At the north mine, the ground in the engine-shaft, sinking below the 112 fm. level, still continues hard. In the 112 fm. level north the lode is about 9 in. wide, good saving work for silver-lead ore; in the same level south the lode is about the same size last report. In the 125 fm. level, south of the lode producing silver-lead ore, the lode is 3 in. wide. The south is communicated with the south mine—here we have now laid open for about 60 fms. in length ground that will work at a moderate tribute. In the 90 fm. level south we are laying open ground that will work at a high tribute; in this level we have commenced cutting flat, &c., preparatory to our sinking the count-house shaft. At the south mine, in the 125 fm. level north, we have not taken down any lode since last report; in the 125 fm. level south the lode is producing silver-lead ore. In the 112 fm. level north and south we are opening up the lode, and in the 100 fm. level south we are opening up the lode. In the 40 fm. level south presents good indications for silver-lead ore. We sampled this day, computed 81 tons, of rich silver-lead ore, samples of which are forwarded to the smelters.

EAST TAMAR CONSOLS.—The shaft is down 10 fms. below the 70 fm. level, and I purpose driving on Monday next; I should have continued sinking for other 2 or 3 fms., but the lift is now 20 fms. long, and very unhandy. The lode and ground is better than during the last fortnight, and there is every prospect of the shaft being a good productive level. In the 70 and 80 fms. and in the 11 fm. level north, the lode is better than for some time past. There is no alteration of importance in other places. The pitches are generally looking well, and there is but little doubt that our next sampling will be quite equal to the last.

ESGAIR L.L.—the south lode, in the stopes in the bottom of deep adit, east of the engine-shaft, is about the same as last reported. In my last report, I informed you the north lode, in the deep adit east, was increasing in size, and more water coming from the present end, and the lode producing more fine lead in the small than in the rough—the whole of the small containing lead, but not sufficient to put a value on; since which the lode is much improved, and is now 3 ft. wide, and will yield, on an average, 100 lbs. of fine lead, and 100 lbs. of small lead, weekly, with the water coming from the present end, and will produce as good a stone of lead as I ever saw. The lode in the winze below the shallow adit is looking much the same as last reported.

EXMOOR WHEAL ELIZA.—The caunter lode in the 24 fm. level is not so large as when last reported on, but we presume there is another portion thereof a little to the north; this we shall ascertain in a day or two. The cross-cut north, in the same level, is being driven about 6 ft. per week; the engine continues to work well.

HOLMBUSH.—*Same* lode in the 120 ft. level south is 84 ft. wide, composed of quartz and lead, *saving* work; the lode in the 100 ft. level, east of Hitchins's shaft, on the south part, is 8 in. wide, producing 1 ton of ore per ft.; the ground in the 120 ft. level cross-cut south, towards the flap-jack lode, is still favourable, being a beautiful *stratum* of *quartz*. The lode in the 110 ft. level south is 2 ft. wide, and will produce 3 cwt. of lead per ft. The lode in the 100 ft. level, east of the flap-jack lode, is 10 in. to 100 ft. level south is 2 ft. wide, composed of soft *apric*, *pride*, and *stones* of lead; no lode has been taken down in the 100 ft. level east of the great cross-course since last year. I hope Capt. Frishe has sent you the produce of the last parcel of silver-lead stones.

HEIGNSTON DOWN CONSOLS.—Bayley's engine-shaft progresses satisfactorily. The 35 fm. level, both east and west of cross-cut, continues without important alteration since my last. The lode in Hiltchen's shaft is increased in size during the present week, and producing occasional stones of copper ore.

KIRKCUDBRIGHTSHIRE.—The lode in the 50 end east is ft. wide, has a fine spear with it, spotted with ore, worth 5 cwt. of lead to the fathom. The lode in the winze in the 40 ear, over this end, is 2½ ft. wide, with spots of ore in places. The lode in the 50 end west is 2 feet wide, with a fine spear, yielding 6 cwt. of lead per fm. The lode in the 40 ear west is 2½ ft. wide, with a fine spear, yielding 4 cwt. of lead per fm. The lode in the 40 ear west, 1½ ft. wide, has fine spots of ore coming in it. The lode in the winze west is 1½ ft. wide, with 1½ ft. of fine ore, yielding 4 cwt. of lead per fm. The lode in the 40 ear west has improved this week, having a small branch of ore coming in it again. We have got the water in fork to the 50, and the water in the 40 ear, which we hope will be all in force in the beginning of the week; the pitwork, however, well.

LAMERHOOE HEAL MARIA—The stones of copper ore from the F lodge, lately intersected in sinking the engine-shaft at 534 fms. depth, sent forwarded by the agent to London, have been inspected by several experienced parties, and are pronounced an excellent average of the ore of the district. The stones of spar from the cross-course in the same shaft are, however, of a decisive character for lead, being of the most delicate texture; and, although coated and impregnated with both copper and muddle, our informants are decidedly of opinion that, in depth, a lead lode will be met with. It is now upwards of three years since the engine was erected, and placed so as to work the shaft, and it is hoped the adventurers are about to be rewarded for their patience and perseverance in our old mine. Our shaft is now 534 fms. down, and the cross-shaft. The Davey's shaft is also in successful progress, being nearly 47 fms. down, and as it is intended to explore the H, I, K, L, and M lodes from a 50 fm. level, the adventurers may expect some decisive results in the course of another six weeks or two months, either from the engine or Davey's shafts, or both.—**July 16.**—In the engine-shaft the cross-course is very large, and there will not be much progress made in sinking until we cut the H lode. At the shaft, we expected to reach the 50 in August, but fear we shall not accomplish it in that, the water in the shaft is so full of spar that it is difficult to encounter with. The men are doing their best, and will not relax until we reach the H lode.

LEWIS.—The lode in the 70 east is much improved since my last, it is now 3 ft. wide, 1 ft. of width more than before; the 70 east of engine-shaft, on south branch, is worth 6¢ per fm.; the 70 east of ladder-shaft, on south branch, is worth 68¢ per fm. The 60 east of engine-shaft, on south branch, is worth 14¢ per fathom; the 60 west from engine-shaft, on south branch, is worth 16¢ per fm.; the winze sinking below the 60, on south branch, is producing some good quality thrustur; the lode in the 60 east, on Cock's branch, is 1 foot wide, saving work; the winze sinking below the 60, on Cock's branch, is worth 10¢ per fm. The 5' east of copper ore shaft, on Cock's branch, is worth 10¢ per fm.; the 5' west of same shaft, on Cock's branch, is opening good tribute ground. The lode in the 40, west from copper ore shaft, on Cock's branch, is 3½ inches wide, worth 4¢ per fm. Our tribute ground in general is looking well.

MENDIP HILLS.—The beds of slagstaff in Charterhouse Valley call for no particular remark, being precisely the same, as regards quantity and quality, as when I last wrote to you—viz.: about 16 feet thick, some part of which yields good slags. The masons are getting on favourably with the reverberatory furnace; the walls of the furnace-house are also in a forward state; I hope to see it covered in by the end of the present week. In Blackmoor, it is pleasing to state the beds of slagstaff which we are a

SOUTH DOLCOATH.—The engine-shaft is now completed to the 60 fm. level, and plat cut, &c.; we have commenced sinking the shaft below that level—the lode in which is 3 ft. wide, composed of spar, prinn, and spots of ore. In the 50 fathom level west the lode is 2 ft. wide, and kindly. In the 40 fm. level east the lode is 4 ft. wide, with occasional stones of ore. We have four men driving a cross-cut in the shallow level, with the intent to prove the ground through the sett, which will cost about 15s. per fathom for driving.

SOUTH TAMAR.—We have a decided improvement in every point of our operations. In the 90 fm. level is cleared north about 100 fm.; the lode in the back is about 100 ft. to the 90, 100 ft. excepting a short sink or two. It is not rich, but will set at a moderate tribute; south of the shaft we have been able to clear more than 2 fms.; in the 90 end south the lode is worth from 11 to 13 cwt. of rich ore per fathom, and presents a most encouraging appearance; the pitch in the back of this level is also looking very well. In the 80 fm. level south the lode in the end is worth about 6 cwt. of rich ore; in the 70 fm. level the pitch in the back of this level is about 100 ft. and the lode is very much improved, particularly in the inside one, where it is yielding at least 14 cwt. of lead per fm.; in the winze sinking in the bottom of this level, there is a very fine lode; the last fathom has produced much better work than any we have as yet raised; this winze is about 18 fms. from the end, and about 13 fathoms before the 90 end. In the 80 fm. level the ore part of the lode is about 15 inches wide, and very rich.

SOUTH WALES MINES.—The lode in the Bodcoll deep adit east, is 18 inches wide, and looking more kindly than when last reported. The lode in Dolwin deep adit, east of the Rhyndnet river, is 5 ft. wide, and is now producing some good stones of lead, with copper and mungie, and looking more kindly than when last reported.

SOUTH WHEEL TRELAWNY.—The engine-shaft is in course of sinking, and also cutting ground for plat at the same time, with nine men; the ground is not quite so favourable as when last reported; things are also in a regular course of working. We have sunk below the 20 fm. level about 10 fms.

WHEEL VINCENT.—The stopes on the south look well; we have taken down the lode, and find it still continues good; there is no material alteration in sinking on the north lode since last reported on—still good stamps work.

TAMAR SILVER-LEAD.—The shaftmen are engaged fixing a plunger in the 110 fm. level, which I hope will be complete by to-morrow, when we shall again commence sinking with all possible dispatch; in the 190 and there has been no lode taken down since last reported on. In the 175 and the lode is still large—2 ft. of which

14 good stamps work. In the 160 end the lode is 2 ft. wide, yielding good work. In the 142 end the lode is also about 2 ft. wide, and opening profitable work. In the 135 end the lode is 18 inches wide, producing work of a rich quality. At North Tamar, in the 80 fathom level, the lode is small, occasionally producing good stones of ore, but not to much value. In the north end, in the 70 ft. level, there is a little improvement; the branch on the west side of the end is 15 inches wide, and yielding good saving work; in driving south, in this level, we are passing through ground that will work at a moderate tribute. We commenced, for June month, segmented 199 tons of rich silver-lead ore.

TINCROFT.—At Palmer's shaft, on East Pool lode, sinking below the 90, the lode is 3 ft. wide, with stones of copper ore. The lode in the 80 fm. level west is worth 8¢. per fm. for copper. In the 70 fm. level west the lode is 1½ ft. wide, with spots of ore. In the 24 fm. level, west of Stainsby's shaft, the lode is 1½ ft. wide, with good stones of copper ore; the stones in the back of this level are worth 40¢. per fm. for copper. At North Tincroft the engine shaft, sinking below the 100 fm. level, the lode is 3 ft. wide,

with some ore, but not so value. In the 100 fm. level east the lode is $3\frac{1}{2}$ ft. wide, worth 101. per fm. for copper. In the 90 fm. level, east of Willoughby's shaft, the lode is worth 91. per fm. for tin and copper; in the same level west the lode is worth 121. per fm. for tin. In the 80 fm. level, east of Willoughby's shaft, the lode is worth 94. per fm. for tin. The 70 fm. level, east of Willoughby's shaft, the lode is worth 101. per fm. for tin. In the 60 fm. level, east of Martin's east shaft, the lode is 5 ft. wide, worth 137. per fm. for tin; the slopes in the back of this level, east and west of the shaft, are worth 167. per fm. for tin. In the 132 fm. level, east of Martin's east shaft, the lode is worth 177. per fm. for tin; the west end, in the same level, is worth 101. per fm. for tin. The slopes in the back of this level, east and west, are worth 121. per fm. for tin. On Chapman's level, 120 fm. from the Dore, the lode is 2 ft. wide, worth 101. per fm. for tin and 187. per fm. for copper. The 90 fm. level is worth 287. per fm. for tin and copper. In the 80 fm. level west the lode is $2\frac{1}{2}$ ft. wide, worth 101. per fm. for tin and copper. At Wheel Providence, the lode in the engine-shaft, sinking below the 33 fm. level, is 3 ft.

TRELEIGH CONSOLS.—Garden's shaft, below the 113, is sinking in favourable ground. In the 50, west of ditto, lode 18 in. wide, with good stones of ore. In the 40, ditto, lode 15 in. wide, worth 32 per ton. In the 30 east-cut, north of ditto, we have cut the lode, it is 1 ft. wide, with stones of ore. In the 70, west of ditto, lode 24 ft. wide, with good stones of ore, and looking kindly. In the 60, west of ditto, lode 2 ft. wide, with stones of ore. In the 50, west of ditto, lode 10 ft. wide, with stones of ore. In the 40, west of ditto, lode 30 in. wide, and worth 104 per ton. In the 20, west of ditto, lode 1 ft. wide, but little ore. At Parent's whim shaft we are opening plant, and preparing to sink to the 20. At middle lode, in the rise above adit, lode 18 in. wide,

WHEEL TRELAWNY.—At Phillips's shaft the 82 cross-cut is extended 33 fms. eastward. The lode in the 72, north of this shaft, is 2 ft. wide, and worth 10¢ per fm.; in the same level south the lode is 1 ft. wide, and worth 12¢ per fathom; the stopes in the back of this level continue to be fairly productive. The lode in the 62 north is 4 ft. wide, and worth 15¢ per fathom; the stopes in the back of this level, north and south, continue to be fairly productive. The lode in the winze under this level, north and south, is 1½ ft. wide, and worth 10¢ per fathom. At Trelawny's shaft the cross-cut in the 73 fm. level is extended west 4 fms. The lode in the 52 north of this shaft is 3 ft. wide, and worth 15¢ per fm.; all the stopes in the back of this level continue to be fairly productive. The stopes in the 42 north are also productive; the lode in the winze sinking under this level is 2½ ft. wide, and worth 10¢ per fm. At the north mine the lode in the 55, north of Trehaue Mine, is 1½ ft. wide, and worth 4¢ per fm. The lode in the 45, north of Trehaue, is 2 ft. wide, and worth 9¢ per fm. Since our last report, we have been cutting the plat at Smith's shaft, which will be completed in the course of a few days; after which we shall resume sinking the shaft under the 40 fm. level; the lode in the 40, south of this shaft, is 3 ft. wide, and worth 6¢ per fm.; the stopes in the back of this level, as well as the stopes in the 30, north of this shaft, are also productive. On the 11th inst., we sampled a parcel of ore, computed 100 lbs., and found it to be well on the 80th inst.

WEST WHEEL JEWEL.—In the rise, in the back of the 70 fathom level, west of Williams's cross-course, on Wheel Jewel lode, lodc not taken down in the past week; wheel teeth broken off. In the winz sinking, the best stoping of the 70 ft. level, west of ditto cross-course, on ditto lode, the lode is worth 47. per fm. The 47 fm. level, west of ditto cross-course, on ditto lode, is unproductive; the deep adit, west of ditto cross-course, on ditto lode, is producing stones of ore. In the deep adit, west of Tragoning's shaft, on Tolcarne tin lode, the lode is looking promising for tin. The stopes in the back of the 12 fm. level, west of Pryor's winze, on the same lode, are worth 144. per fm.; the stopes east of this winze, on the same lode, is worth 101. per fm.; the stopes in the 12 fm. level, west of Pryor's winze, on the same lode, is worth 101. per fm. On Collier's shaft, on the same lode, in ground, there are no current stopes now working on tribble.

WHEAL MARY ANN.—In the course of the past week we have commenced sinking Pollard's shaft under the 50 m. level, but the ground is at present hard. The lode in the 50 m. level, north of this shaft, is 2 ft. wide, and with 47. per fm.; in the same level south, the lode is 3 ft. wide, and with 47. per fm.; the stopes in the back of this level are producing a fair quantity of lead. The lode in the 40, south of this shaft, is 1 ft. wide, and producing good stones of lead; in the rise in the back of this level the lode is 1 ft. wide, and worth 67. per fm.; the lode in the 30, south of this shaft, is still split into branches; the lode in the winze sinking under this level is 2 ft. wide, and worth 67. per fm. At Barratt's shaft, the winze under the 50 m. level, north of this shaft, is suspended, in consequence of an increase of water, and the men are driving north from this winze, where the lode is 3 ft. wide, and worth 77. per fm. We have commenced sinking this shaft under the 50 m. level, where the lode is 3 ft. wide, and with 47. per fm.; in the 40, south of this shaft, the lode is 2 ft. wide, and worth 47. per fm.; the stopes in the back of this level are looking well. We have now commenced the 40 at Barratt's with that from Pollard's shaft; the stopes in the back of this level are producing a fair quantity of lead.

WHIDDEN.—The ground in the cross-cut north from the shallow adit end, is not quite so hard, with some fractures, and the light strata is making its appearance; the price for driving is 35. 1/2c. per ft. In clearing the old workings at the surface, we have opened on the train of the north lode we are driving for at the shallow adit; we have explored it to the extent of the shallow lode of only 8 ft. from the surface 1 qr. of black tin to the ton of ore. This lode goes down perpendicularly, and bears 6° north of the run of the south lode, in going westward; this fact greatly clears up our difficulty, and makes it probable that, in driving our north lode, we have gone as far, or so, farther north, as we could, and that the black tin is in the same lode, and is to be worked on.

IMPERIAL BRAZILIAN MINES. *Bananal, May 14.*—At this place, since my last respects, there has not been a single alteration in the mine worthy of recording. Catta Preta wheel is now working a pump in Gibson's shaft, and thus aids us at Thomas's, in which we are on course of re-arranging our pit-work. The extension of our adit southward towards Brightman's shaft will be resumed as soon as we have overcome the obstruction caused by crushing of the ground south of Hollingsworth's.

Gold Report.

| | | | | |
|--------------------------------------|----------------|----|----|--------------|
| From Gongo, from 3d to 12th May..... | <i>Lbs.</i> 5 | 1 | 0 | 0 |
| Bananal Ditto | 2 | 10 | 0 | 0-7 11 G 0 |
| Total from 1st Jan.—Gongo | <i>Lbs.</i> 70 | 6 | 14 | 0 |
| Ditto .. Bananal | 81 | 10 | 1 | 0-152 4 15 0 |

NATIONAL BRAZILIAN MINES.—*Cocoes, May 12.*—In the back, above Hartley's eastern stop, there is a little improvement in the appearance of the lode, at which point we are anxiously looking forward for some good veins. Produce, 2 mks. 6 cts. 1 qt. 55 cts.—A remittance has been received by H.M.S. *Adventure* of about 10000.

ST. JOHN DEL REY MINES.—*Morro Velho, May 8*.—Product for April, 22,573 oits.—218 lbs. Troy, from 6076 tons of ore, yielding 373 oits. per ton. This is a creditable result, considering the fact that the mine is one of the least accessible available to the watchful energy of the chiefs of the two departments principally concerned—say, the mine and reduction departments.—and will, I have no doubt, be satisfactory to the board. The stamps workings, during the month, average 939 heads. The supply of stone, though kept up with great spirit, is not sufficient for our stamps. We have been obliged to purchase 100 tons of stone from the refuse heap—restitution of killed ore, in this being wholly out of the question.

| | |
|--|-------------|
| Cost of April, rs. 45,796 17s. 6d. Ex. 25½ | £4863 16 10 |
| Produce, 22,679 oltavas; less duty, 7 per cent., 1587—net oltavas, | |
| 21,085, at 7s. 7d.½ | 8016 13 10 |

Profit £3150 17 0

Crack over the Cuacheta Mine.—You will see, in my diary of the 1st inst., the details of the final examination of this dangerous ground, and of the precautionary measures deemed prudent to be taken in consequence; you will also see what Capt. Triloez says thereon in his monthly mine report. In order to insure a speedy supply of the very large and profitable timber which will be required for this purpose, I have deemed it advisable to offer an extraordinary high price for 30 pieces, 40 ft. long by 2 to 2½ ft. diameter, to be delivered on the mine about the middle of this month.

Extract from Capt. Treloar's Mine Report, for April, 1849.

only maintaining its size and quality, but is enlarging and improving, especially in the eastern part of the gut, and at the westerly end of the West Quaker Panella. At the surface, in the line of the part referred to in the gut, the lode was only about 3 ft. wide, but, owing to its gradual enlargement in descending, it is now about 30 ft. wide, and of the quality of the first order. If the ore from this portion were stamped separately, I fully expect it would yield 7 or 8 cts. per ton. At the part referred to, in the East Quaker Panella, there used to be killas; but it has disappeared, and in its place we have a lode of iron ore. On our original plan, a copy of which was forwarded to England in May, 1848, several bars of killas and quartz, which were to be used in the construction of the bars, I am happy to say, have in some instances entirely disappeared, and, in others, are so much altered, that they do not now represent the true state of the lode; consequently I shall remove all of them, excepting those intervening between the several mines, and I recommend the same being done to the section in England. We are now well on in respect to timbering, and I hope we shall make rapid progress in putting in stulls and props to the level of the water, so that the people who are much watered by the lode in the West Quaker Panella 8 feet have been driven to the distance of 100 ft. from the killas is 3 fms. 1 ft. 6 in. I informed you verbally when we met with this killas that I expected it was about 4 or 5 fms. thick. On the 23d, water began to issue from the divisional lines in it, and the day before yesterday we touched soft ground. I hope it will turn out to be a soft line, intervening between the killas and the lode. Seeing that the lode has enlarged in depth at the East Quaker Panella, and displaced bars of killas which were in the line of the lode, and that the lode in the West Quaker Panella is widening and displacing the bars of killas in like manner, and thereby rendering the vein continuous,

Crack in the Middle Cachoera.—On the 25th of two of our timber-men went to put in some timber for a safety door under the hauling station. No. 2, or at A, they noticed a caulk stone, and on looking into it found it led to a crack in the south wall, or containing the roof of the lode, which overhangs the widest part of the Middle Cachoera. On carefully examining and tracing this crack, not an easy task, on account of the figure of the excavation, which bears some analogy to the figure of the wide part of the East Cachoera (see fig. 1), they found it led to a pillar immediately under the transverse level, or a distance of 34 fms.—consequently, the pillar is not a part of the mine, but hanging over the mine, as represented in the rough transverse section, may be said to be gradually giving away. From the mildewed and corroded appearance of the crack, it was evident no recent discernable movement had taken place, and we are of opinion that the crack does not yet extend any great distance towards the root of the ground. As the lode is excavated, pressure and decomposition takes place, and the impending masses, especially, yield and sink, in doing so, the crack will be thereby occasioned, and at first much like the alarming alarm of danger. When the dangerous position is discovered, at the East Cachoera Panella, about three years ago, all parties thought it would fall in a few months, but it is so firmly rooted to the parent rock, that hitherto it has not given way, although the crack, in some places, has opened to 3 in. wide. The crack in the Middle Cachoera, which nowhere yet is the eighth of an inch wide, is in a line of kills softer than the kills generally, and the pillars in this section have not been left so far west as the line, on account of the great width of the excavation, between 30 and 40 feet. The middle kill is a fine grained, and strong, and compact, and is a good deal harder than it has become hard and compact; these circumstances alone would probably arrest the progress of the crack downwards, but we propose adding these natural circumstances by three main pillars of wood, as represented in the sketch. Supposing the worst, that the mass for the whole length of the crack giving way, from A to its root D, in the transverse section, the total quantity would be about 4000 tons. Now, if the rules in *Barlow's Essay on the Strength and Stress of Columns of Timber*, pages 235, 236, and 237, may be relied on, the three pillars of wood, if they are of the same length, and of the same diameter, will, unquestionably, in our minds, render the place quite secure. In the event, however, of the crack following us down contrary to our expectations, we think it would be advisable, when the bottom of the mine reaches the point E, to have a pillar or a bracket of the lode, as shown at E; if a pillar, no bracket will be required; if a bracket, then a strong stall and masonry, in conjunction with it, will be requisite, in order that it may have same effect as a pillar. At the same horizon as this pillar or bracket, we further propose a strong wall, or a strong pillar, or a strong roof, or not, to be put in, and a new roof over the West Cachoera, as it would compensate the three advantages of bracing the West Cachoera and roof of the Bahu sump-shaft firmly together, would most effectually support the hanging wall of the West Cachoera, from end to end, and would receive any mass of ground, and prevent its going down the mine, that may fall from the excavation westward of the hauling station No. 4. The ladder wall, which is now on the West Cachoera side, or at F, above the new roof, offered to, could be transferred to the Bahu sump-shaft, where it would be much more safe, by opening a communication at G to the West Cachoera, and the ladder wall, and the roof of the mine—any subject we some time since resolved to effect. The mass of ground cracking off will be secured, without materially interfering with our stoping operations.

In our last Journal we gave a copy of the directors' report, with a full notice of the discussion which followed its reading, at the meeting of shareholders, on the 11th inst., and the following is an abstract of the accounts then presented.

| Du. | | Abstract of Balance, June 30, 1849. | |
|--|--|-------------------------------------|--|
| Money at interest, at bankers, and bank of England | £20,215 6 3 | | |
| Copper ore at Swansea | 2210 10 1 | 22,425 16 4 | |
| Amount drawn by agent at the mines, and other items of expenditure for the current half-year, ending 31st August, 1849, against which 477 tons of ore have been raised to 31st May | 3,705 3 6 | | |
| Steam machinery account | 759 18 6 | | |
| Profit and loss account, half-year ending 28th February, 1849 (particulars as under*) | 1,226 3 9 | | |
| Total | | £28,147 1 1 | |
| Ca. | | | |
| Working capital account | £25,318 15 1 | | |
| Bills payable—current acceptances | 2,486 7 8 | | |
| Due to sundry parties at date | 341 18 0 | | |
| Total | | £28,147 1 1 | |
| Dn. | <i>* Profit and Loss Account—Half-year ending February 28, 1849.</i> | | |
| Wages, arrriage, export duty in Cuba, materials, and miscellaneous expenses, as per accounts on the table | £ 7,645 7 1 | | |
| Ca. | | | |
| Net proceeds of 372 tons per <i>Sunbeam</i> | £ 4,165 4 0 | | |
| Estimated ditto, 334 tons, per <i>J. L. Goldsmid</i> | 2,100 0 0 | | |
| Interest on unemployed capital | 153 19 4 | | |
| Loss on the half-year | 1,996 8 8 | | |
| Total | | £ 7,645 7 1 | |

A meeting of adventurers was held, at their London offices, 38, New Broad street, on Thursday, the 19th inst., when the finance committee laid their accounts for the last two months before the adventurers, showing:—

| | | |
|--|-------|----|
| Dr.—Paid in June and July, cost of April and May—wages and incidentals | £2675 | 0 |
| Carriage and horse work | 300 | 14 |
| Coals | 415 | 0 |
| Materials and stores | 545 | 0 |
| Rates, rents, dues, &c. | 230 | 0 |

| | | | |
|---|-------|------|------|
| Total | £4165 | 15 | 3 |
| Cs.—Tin sold in June and July (128 tons 3 qrs. 10 lbs.) | £5207 | 1 | 0 |
| Undivided profits of former accounts | 254 | 7 | 0 |
| Total | £5461 | 9 | 3 |
| Showing balance to credit | £1295 | 13s. | 10d. |

A dividend of 4l. per share was declared, leaving 271l. 13s. 10d. to credit of profit account for the September meeting, with assurance of continued progressive improvement in the mine.

A meeting of shareholders, resident in London, was held at the offices of the company, on Wednesday, the 18th inst., when a detailed report was presented by Capt. Matthew Francis, who was present, and who laid before the proprietors the following statement of the accounts of the company, for 11 months, from June, 1848, to April, 1849, both inclusive. The contract price for the ore is 12 pence per ton, which is about the average worth—

| | Cost. | Returns. | Royalty. | Profit. | Loss. |
|-------------|----------|--------------|------------|---------------------|---------|
| 1848. | | | | | |
| June .. | £687 0 0 | £120 0 0 | £75 0 0 | — | £12 0 |
| July .. | 790 0 0 | 1820 0 0 | 187 10 0 | £463 10 0 | — |
| August.. | 794 0 0 | 1930 0 0 | 195 0 0 | 371 0 0 | — |
| Sept. . | 1101 0 0 | 1200 0 0 | 135 0 0 | — | 29 0 |
| October | 742 0 0 | 840 9 0 | 83 10 0 | 14 10 0 | — |
| Nov. . | 538 0 0 | 902 0 0 | 93 0 0 | 149 0 0 | — |
| Dec. . | 580 0 0 | 790 0 0 | 75 0 0 | 65 0 0 | — |
| Jan., 1849 | 746 0 0 | 1128 0 0 | 117 10 0 | 264 10 0 | — |
| Feb. . | 753 0 0 | 1080 0 0 | 112 10 0 | 214 10 0 | — |
| March .. | 622 0 0 | 802 15 0 | 81 5 0 | 99 10 0 | — |
| April .. | 628 0 2 | 836 17 6 | 81 5 0 | 127 12 4 | — |
| | £794 0 2 | £10,749 12 6 | £1108 10 0 | £1708 2 4 71 0 0 | £11 0 0 |
| Net profit. | | | | £1697 2 4 | |

In order to understand the affairs of the Leitch Consolidated Mines clearly, it will be necessary to examine from some period the results, subsequent to which will entirely be free from doubt or misapprehension. I have, therefore, taken my starting point from the time when the 50-foot wheel was completed, on the 10th June, 1848. Previous to this time there was no machinery by which it was possible to calculate upon doing any work, and the only means of obtaining water was by means of the pump, which the company were then principally directed to obtaining water, which was retarded by the necessity of long negotiations, to getting machinery, to opening the mine upon a more extensive system, to enlarging the ore floorings and buildings, and to the erection of the 50-foot wheel, and its application to the different works of the mine—the whole cost of the 50-foot wheel, and the cost of the buildings, and the cost of the machinery, and the ground broken on the mine from the commencement, up to this time, which I take to show the cost of its breaking, is 1769 fms.; the amount paid for breaking is 4515s. The average price per fathom from September, 1847, to June, 1848, was 2s. 1s. 9d.; the average price per fathom from July, 1848, to April, 1850, was 2s. 1s. 9d.; the average price per fathom from April, 1850, to the present time, was 2s. 1s. 9d. The price for the last 11 months has been 4s. 6d. below the whole average. This includes the cost of sinking the engine and other shafts, and the driving of all levels and sinking of winzes, and deducting from it 5s. 6d. for the delivering of the stuff in the shafts. The average cost of sinking a fathom of ground, throughout the whole of the mine, is 30 ft. wide, I think the price may be taken as an evidence that the system of working is in practice economical. The cost of all the ground broken on the mine I have stated to be 4515s. for which there has been broken, inclusive of royalty, but not of ore in the

In order thoroughly to understand the affairs of the mine since the 10th June, 1943 on which the large wheel went to work, I have had a statement drawn up as simply as possible, balancing every month. This statement shows a balance profit, since June, 1943 to 1947. I should say there is 1000L. included in the cost, which has gone to pay for material.

chimney and its erection, and buildings as the conveniences for work have been extended in every way. There are also the halms. We have caused experiments to be made, by which it appears that full 30 tons of ore a month are broken and landed at the surface, from which the ore has yet been obtained. A very powerful and excellent crushing-mill has just been erected, preparatory to their reduction; and when we are able to dress the whole of the halms, they will leave a good profit yearly. The raisings since June have amounted to 80 tons of ore monthly. The running cost on that which would have been incurred, suppose all machinery erected, would be 650*l.*, which, at an average price for the ore, would leave 20*l.* per month profit, besides the halms, which would give about 200*l.* more.

The dispatch in taking away the ore ground has not been so great as I could wish, or the state of the mine would justify. The quantity of ground laid dry by sinking under the 15 ft. level, since the commencement by the present company, has been 3100 cubic fms. The whole of the ground taken away for ore, including shafts, levels, and winzes, has been 1760 fms., leaving a balance of 1341, to which must be added 1430 fms. in the back of the 16 ft. level—making together 2770 fms. of ore ground, which, at 10 cwt. of ore to the fm., would give between 1300 and 1400 tons of ore now discovered in the different levels. I expect in the ensuing 12 months to open 3000 fms. of ore ground, and to be able to continue to do so annually; and if the ore ground can be exhausted at two-thirds of this rate, it will give a monthly return of 120 tons of ore. The principal cause of delay has been deficiency in the drawing power: as the mine has become deeper our power has been found insufficient to draw above half the ore we can break. A small high-pressure steam-engine is now erecting at a cost of about 150*l.*; this engine, we calculate, will be able to raise stuff enough to make 120 to 130 tons monthly. From what I have said, it will be clear to the proprietors that the ore has been obtained by working the ground economically, and that the sales have not been the result of unduly forcing the ore ground; the reverse of this appears to me so manifest, that I feel it unnecessary to make any further remark upon the subject. The ore ground is just as productive as it has been since the commencement of the mine.

FOURDRINIER'S PATENT SAFETY APPARATUS, FOR PREVENTING ACCIDENTS IN MINES AND COLLIERIES.

Sir,—On looking at the sketch of Mr. Fourdrinier's apparatus for preventing accidents arising from the breakage of ropes or chains, it occurred to me to ask, what becomes of the detached portion of rope or chain in case of breakage? For instance, if the rope or chain breaks 100 yards above the cage, is the broken portion suspended in the shaft, or does it fall down upon the cage? If the latter, what security does the invention give to the men, as the rope, or chain, falling upon them would inevitably be fatal? Perhaps, it is intended to make the top of the cage of great strength to resist the blow; but will not the weight of 100 yards of rope, or chain, falling down that distance, be sufficient to carry away the cage, guides, and all the apparatus together? I merely write for information, and not from any wish to detract from the merits of the invention.—A NEWCASTLE COLLIERY: July 16.

[We believe Messrs. Fourdrinier have proposed the adaptation of a strong iron arched roof, to receive the remnant of the broken rope or chain, and in some cases to have the platform for the men beneath the cage, as a protection. We do not think the broken chain would carry the apparatus away with it, the wedge-like nature of the principle being immovable.]

ON THE BEST METHOD OF WORKING LARGE LODES.

Sir,—The working of large lodes, particularly that of the Bwlch Consolidated Mines, having lately attracted some attention, I beg to offer you a few remarks on the economy of working lodes of different widths. My attention was called at an early age (some 24 years ago) to this subject by the working of the lode at West Wheel Alfred Mine, and it has since been a matter of much interest to me, as I have been much practically connected with the working of very large veins. The lode in West Wheel Alfred was from 12 to 15 ft. wide; it was stopped underhand, and stulls of whole pieces of the balk were put in over head, for the purpose of receiving the rubbish, and securing the mine; but as these series of beds of timber occurred every 8 or 9 ft., the system was so costly, that it appeared to me something must be done to make the device less expensive. In 1820, I was engaged in working the Aros Copper Mines in Venezuela. The lode was 75 ft. wide; a portion of it, containing the richest ore, was worked and supported with timber. This timber consisted of lock pieces, formed by several balks being cramped together by iron staples, to the size of 4 ft. deep and 2 ft. wide—a system attended with no other inconvenience in America but that of felling the timber, and its carriage and fixture in the mine. On my taking an agency in South Wales, some 17 years ago, I found the lodes similar in size to those in America, but not so the timber. In France, the lode was 15 ft. wide; the width of the lode was 3 ft. I remember being underground in that mine with one of the first miners and mining engineers of the present day. We took the measure for stall pieces, for supporting the walls of the lode; but after finding the length of the timber that would be required (33 ft.), he came to the conclusion that nothing but cast-iron beams could support the weight that would necessarily have to be thrown on them.

Ten years ago I was engaged to work the Goginan Mine, the width of this vein was 18 ft. in the adit level. Whole pieces of balk were put in for a short distance, to secure the ground over this level, which broke with 6 ft. or 7 ft. of stuff upon them; it is, therefore, clear to my mind that timbering the ground in large lodes is not only expensive, but inexpedient. I have been connected with the working of the Bwlch Mines for nearly two years; the lode is 33 ft. wide. We endeavoured to work from the 15 ft. level to adit, by taking away the ground, and resting the rubbish upon arches level, but when we got to 5 ft. high, the ground became so loose and dangerous, the removal of the ore stuff so expensive, and the loss of ore in the rubbish so great, that we were obliged to abandon it. We have tried 15 ft. levels, 6 ft., 5 ft., 4 ft., and 3 ft. In working the 15 ft. levels the cost of a fathom of ground was 63*l.*; in the 5 fathom the cost was about 50*l.*; and in the 18 ft. tunnels, including sinking shafts, driving levels, and sinking winzes, the cost is 42*l.*

The material difference in the cost of working large lodes by tunnels of (say) 60 ft. high, and 30 or less feet high, is occasioned by the number of drifts required, compared with the cost of filling, &c., as used in general. The cost of driving in the Bwlch Mine, to which I now particularly allude, is 400*l.* on 10 fathoms; while to fill an area of 10 fms. high by 5 fms. wide, being the transverse section of the lode for a length of 40 fms., would cost in round numbers 1000*l.*—leaving a balance in favour of open tunnelling, without timber, of 600*l.*; but to timber such a width of lode would cost for 40 fms. another 1000*l.* I am aware that walled arches may be resorted to; but this pre-supposes an arch of ground left of the lode for them to rest upon, and assimilates the system so much to the one I advocate, that I consider it unnecessary to dwell upon the difference between the two. The Bwlch Mine is a very large lode, and the shafts are sunk 15 fms. without the application of pitwork; the drifts for taking away the ore are made from winzes, and do not at all interfere with the sinking of the shafts.

The mine stands supported by arches of ground, at heights varying from 18 to 26 ft.; all the ground in the sides, or walls, of the lode is free and approachable at all times without difficulty, and any ore left can be easily obtained, a matter of some importance where the width of the lode is not surely ascertained. The arches of ore can be taken away, when it is found, and the loss of ore in the rubbish is small, and the shafts are sunk 15 fms. We will only add, that I am wedded to no particular system, but have always worked common-sized lodes with 10 or 15 ft. levels; and without prejudice, I strive to apply the most economical plan of working to every width of vein. The wish to clear up a question I have heard much discussed while in town, is my reason for writing you at such length.—MATTHEW FRANCIS: London, July 20.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

COURT GRANGE.—The shaft at Pen-y-Cyfn looks well, also the shaft at Lettybrian; the lode in each of the shafts is worth at least 10*l.* per fathom. The former shaft is about 200 fms. east of Old Pen-y-Cyfn, and in entirely new or untried ground. The Lettybrian shaft is a mile further eastward, and upon another lode. Large shales of lead ore, weighing 1 cwt. in a stone, have been found during the week, in opening ground for a new 44-ft. wheel, about 220 fms. north of Pen-y-Cyfn.

KINGSSETT AND BEDFORD.—You having asked me to give an opinion of your Kingssett and Bedford Mine, I beg to say, that I was highly gratified with what I saw there on Saturday last. I believe you are likely to have a good, very good mine here, if it be carried out with spirit and economy. The stuff I saw at the surface was not only promising, but it contained some good work for lead; and, if you can raise much of this, you may be said to have a good mine at this time; but that you will require some little time and money to bring it into order must, I think, be anticipated by every one.

WHEAL RUSSELL.—I hear from some of our best agents, who have seen the lodes, that they consider them of great promise, and such as are likely to make great quantities of ore. The operations are confined to 15 fms. deep, or thereabouts, the lodes are large, composed on the backs of fine gossan, fluor-spar, and other indications, deemed of the most favourable character. And on the north lode, in the 15 ft. level, they have seen what looks like the back of a course of ore. On the south lode, at about 10 or 12 fms. deep, they have a good lode, from which they are throwing up some very good work. The ground is good, and they have passing through the sett (in the midst of the workings) the Wheals Maria and Josiah cross-courses, if any importance may be attached to their presence. On looking at Symons's Map of the Taniadog District, and carry on these cross-courses to Wheal Russell, the point of junction of the three will be just where they are now working—that is, about 150 fms. below the lode. I believe that Wheal Russell will disappoint most who have seen her; if she does not make a good mine.

[From the Plymouth Journal.]

HAWMOOR.—The lode in the bottom level, driving west, is much improved; there is now a good course of ore in the adit, and also a good lode in the bottom of the engine-shaft sinking to the level below. A pair of men are stopping the base of the level and the lode in the lobby of the wheel pit is a very large lode; it has been cut on the top of the hill in the eastern part of the sett, and is composed of a very rich gossan. This will fall into the main lode 40 fathoms deep.

GREAT DEVON CONSOLS.—In the bottom of Wheal Josiah there is a rich course of ore. DEVON AND CUMBERLAND.—The bottom level is still driving in gossan, containing grey and yellow copper ore, and white iron; a small vein of the gossan, considered to contain grey ore, has been assayed, and produced 11 per cent. for copper. The whole of the gossan is considered rich for copper.

BIRCH TOR AND VITHEW MINE.—The lode in Dunstan's shaft has improved since the meeting; the water is very scarce, we are obliged to throw off all our stamps from the great wheel, the power being required for raising the water from the engine-shaft. This will not again be the case after the adit level is cleared. The other parts of the mine are without change. PLYMOUTH WHEAL YAGLASH.—The shaft has been sunk to the 12 ft. level, and the

lode will be cut in the course of next week. The stopes are looking very well; the lode this week has been worth full 20*l.* per fathom.

WHEAL PROSPECT.—This little concern bids fair to vie with its larger neighbours in importance; four lodes, varying in size from 18 inches to 4 feet, having been discovered within the limits, and the stopes in an old adit have paid the cost of the undertaking for some time past. The main lode will be cut 20 fms. from surface within six weeks.

TAVISTOCK CONSOLS (late Wheal Ash).—There is a considerable change in the appearance of the lode as we approach the great gossan, seen in the shade pit 10 fathoms to the east of our present end.

WHEAL FRANCO.—There has been a considerable improvement in the eastern part of the mine during the week, but enough has not been seen to enable us to give detail. The standard is greatly against us.

THE COST-BOOK SYSTEM—TRANSFER OF SHARES.

In some remarks which we made in the *Mining Journal* of the 7th inst., arising out of the trial of the cause *Toll v. Lee*, on the subject of transfer of shares under the Cost-book System (reported in the *Journal* of the 30th June), we showed that the mining public had now some basis to act upon, and that shares may be safely transferred without any stamp or other duty. As the subject is of very considerable importance, we give at length the following forms of notices and deeds of transfer, which have been lately drawn up under legal guidance, and may be safely acted upon as correct:—

To the purser of — Mining Company, I, —, do hereby give you notice, that I have sold to —, of — parts, or shares, of or in the mine, called — mine, situate in the parish of —, in the county of —, with the like parts, or shares, of or in all engines, tools, tackle, materials, ores, halms, moneys in the purser's, treasurer's, and banker's hands, and all other appurtenances to the said mine, or adventure, belonging, together with all and singular the dividends to be hereafter declared and payable upon or in respect of the said parts, or shares, and all interest, profit, right, privilege, and advantage whatsoever incident thereto, or to be derived therefrom, and all my estate, right, title, and interest therein.

And also take notice, that I, —, do hereby accept and take the said shares upon the "Cost-book" principle, and subject to the rules, resolutions, stipulations, and conditions mentioned and contained in the Cost-book of the said mine.

As witness our hands, this — day of —

Witness to the signature of the above-named, —

Witness to the signature of the above-named, —

Know all men by these presents, that I, —, of —, for a valuable consideration paid to me by —, do hereby bargain, sell, assign, and transfer unto the said — parts, or shares, of or in all that mine, or adventure, called — mine, situate in the parish of —, in the county of —, with the like parts, or shares, of or in all engines, tools, tackle, materials, ores, halms, moneys in the purser's, treasurer's, and banker's hands, and all other appurtenances to the said mine, or adventure, belonging, together with all and singular the dividends to be hereafter declared and payable upon, or in respect of the said parts, or shares, and all interest, profit, right, privilege, and advantage whatsoever incident thereto, or to be derived therefrom, and all my estate, right, title, and interest therein.

To hold unto the said —, his executors, administrators, and assigns, subject to the same rules, orders, and restrictions, and on the same conditions as I held the same immediately before the execution hereof.

And I the said — do hereby accept and take the said shares, subject to the same rules, orders, restrictions, and conditions.

As witness our hands, this — day of —

Witness to the signature of the above-named, —

Witness to the signature of the above-named, —

TESTIMONIAL TO MR. FLETCHER BY THE COAL PROPRIETORS.—The South Lancashire coal proprietors, last week, gave a sumptuous dinner at the Albion Hotel, Manchester, to John Fletcher, Esq., of the Hollins, near Bolton, chairman of their association.—JONAH HARRIS, Esq., of Bardsley House, in the chair.

In the course of the evening the worthy chairman proposed the health of Mr. Fletcher, and detailed, at considerable length, the valuable services rendered to the coal trade by that gentleman during the last five years, and more especially during the Parliamentary sessions of 1846 and 1847, when, in contending successfully with nearly all the principal railways in the kingdom for a reduced and equalised rate of tonnage on the transit of coal on railways and canals, Mr. Fletcher, at the earnest request of a numerous body of coal proprietors, devoted 115 days (without remuneration) in London to the attainment of this object. At the conclusion of an able and interesting speech, the chairman, in the name of the South Lancashire coal proprietors, presented Mr. Fletcher with an elegant silver tea kettle and stand, on which was a suitable inscription, and a pocket-book containing the sum of 500*l.* Mr. Fletcher acknowledged this very handsome compliment, in a speech replete with good taste and much feeling. At a later period of the evening, the chairman proposed the health of Mr. Peet, the secretary of the Coal Proprietors' Association, in very complimentary terms, and expressed great pleasure in presenting to him, in their name, a splendid silver cup and cover, silver tea caddy, and ornate timepiece, altogether of the value of 65*l.*, in token of their approbation of his conduct as their secretary. Mr. Fletcher, Mr. Lees, and Mr. Johnson, also bore testimony to the importance of the services of Mr. Peet, whose observations, in responding to the toast, and acknowledging the substantial compliment then paid to him, were loudly cheered.

THE IRON TRADE OF THE UNITED STATES.—A friend writes from his iron-works in Pennsylvania as follows:—"The late changes in the iron business in England, I fear, will stop all our establishments. Our railroad companies are now able to contract for the bar at \$42 50 c. per ton, at which price it cannot be manufactured in this country; and, although the quality of the American bar is so much superior, yet they will all buy the English iron, unless furnished at the same price. This condition of things arises from the want of a continental demand; and hence their surplus stock is sent to our market, and sold at any price that it will bring. We have our rolling mill in operation, and everything works like a charm, but we shall not continue long at work if English prices do not advance. We cannot reduce the labour lower than it is now, and no good American ought to desire it. I shall write you, ere long, more fully on the subject. We manufacture now so near to the English prices that a slight modification of the tariff would give us all that we desire."—*New York Courier*.—A correspondent of the *Birmingham Journal* (New York, June 26) writes:—"A contract for 5000 tons of rails has been made by the Erie Railroad Company, with the eminent house of William Crawshaw, the cost here, all charges and duty paid, not to exceed \$42 40 c. per ton. This is lower than any contract has yet been made for cash. The payment for this amount of iron being made in the second mortgage bonds at par, has appreciated these bonds in the market. Notice of the completion of another contract for 5000 tons more on the same terms is expected by the next steamer. The company are now beyond financial want, and can accomplish their gigantic undertaking with the means at their disposal, and proposals have lately been received from strong parties offering to make the road, bed and superstructure ready for the iron, receiving payment in the second mortgage bonds of the company."

POLGOOTH TON MINE.—On Saturday week, the men employed at this mine, in number about 900, were regaled, by order of the adventurers, with a bountiful supply of cake and ale, which was laid out on tables in the spacious yard fronting the account-house. The day was very fine, and the decorations of evergreens, flowers, and flags had a very pretty effect. A band of music headed the procession, which was composed of the large mass of industrious men employed at the mine, who paraded the extensive sett with flags and banners bearing appropriate devices. The day was spent in the utmost harmony by the hundreds present without the house, whilst a party of the friends of the spirited agent and projector, Capt. T. Bell, were substantially regaled within. It required little penetration to observe the grateful feeling towards the captain expressed in the countenances of the miners, who feel indebted solely to him for the spirited commencement and successful result of this adventure; whilst Captain Bell himself appeared equally gratified with the men in having been the instrument of reviving a speculation productive of both labour and wealth. Such innocent festivities, by cementing the ties between the captain and the men, the agents and the employers, are a worthy example.—*W. Brion*

ROYAL THAMES STEAM NAVIGATION COMPANY.—In the Vice-Chancellor's Court, yesterday, a petition was presented for winding up the affairs of this company, which was established in 1846, "to provide suitable accommodation for the public in carrying passengers and goods, by means of improved steam-boats, and to from some convenient place or places near London-bridge, to and from Hampton Court, in the county of Middlesex, or to or from such other place or places, stations or piers, between London-bridge and Hampton Court, as the directors for the time being of the said company from time to time consider advantageous;" and also for providing and letting vessels to hire for occasional excursions." The capital was 95,000*l.*, raised by 2500 shares of 10*l.* each. Two calls of 2*l.* per share had been made. The company, it was stated, had ceased to carry on business, and had no office; but there were still outstanding debts. The present petitioner (Mr. G. F. Sievers) was one of the managing directors, and as such had been used by a creditor of the company. Mr. J. H. Palmer, in support of the petition, mentioned that the requisitions of the Winding-up Act had been properly made upon Mr. Osmond Johnson, one of the directors. The affidavit of service stated that the deponent served the petition "by delivering to, and leaving a copy of the said petition and order with, one George Cottle, in the mill and premises of the said Osmond Johnson, at Great Braxated." The Winding-up Act did not require the service to be personal, but allowed it to be made by means of the Post-office. The Vice-Chancellor said, that he did not see any difficulty as to the service, and he would make the order which was prayed.

DESTRUCTION OF A RAILWAY BRIDGE BY FIRE.—Much excitement was caused in Boston on Sunday morning last, in consequence of intelligence being conveyed by Mr. Critchlow, clerk in charge at Spaulding, that one of the railway bridges on the Great Northern Railway was on fire. In a short space of time, an immense concourse of people had assembled; and notwithstanding every exertion was made to arrest the progress of the flames, the construction of the bridge was of an inflammable nature, that in an incredibly brief period it was entirely demolished. It is generally known as Peabody-bridge, is situated about two miles from that place, and is a similar distance from Littleworth. The loss sustained by the catastrophe is estimated at between 2000*l.* and 3000*l.* The train which was due on Sunday at 67 min. past one did not arrive until nearly three o'clock, the delay being occasioned by the above occurrence. A temporary bridge for passengers and light goods was quickly erected, and a train placed in readiness on the other side of the river to convey them to their respective destinations. The cause of the accident was not yet ascertained.—*Lincolnshire Herald*.

BICKFORD'S PATENT SAFETY FUSE.—The Patentees of the ORIGINAL, and only real, SAFETY FUSE, beg to inform Merchants, Mine Agents, Railway Contractors, and all persons concerned in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has been sent a third time through the law, and is now, by a recent right, infallibly distinguished from all imitations, and ensures the continuity of the gunpowder. The Safety Fuse is now protected by a Second Patent, and manufactured by greatly improved machinery. BICKFORD, SMITH, & DAVEY, Cambrone, Cornwall.

New Patents.

SPECIFICATIONS ENROLLED DURING THE PAST WEEK.

Specification of patent granted to George Williams, of Tipton, Stafford, forge manager, for a certain improvement or certain improvements in preparing puddling furnaces used in the manufacture of iron. It has heretofore been the practice to form the lining of puddling furnaces with scoria dust and slag, a practice which causes considerable waste of iron. The patentee forms these substances into bricks, with which bricks he builds the interior of the furnace, using a paste of the same materials for mortar.

Claim.—The making of bricks or plates of scoria and slag, for lining the interior of puddling furnaces.

Specification of patent granted to Mr. Richard Dugdale, Brompton, Middlesex, engineer, for improvements in hardening articles composed of iron. The article to be steeled is placed in an iron case, and is surrounded with the carbonizing powder, which is compounded of 100 lbs. of charcoal, 4 lb. borax, 4 lb. sal ammoniac, and 4 lb. sulphur. The case and its contents are exposed to heat from red to white heat; for a space of time, varying from 4 to 24 hours, according to the depth to which the article is desired to be carbonized. When a portion of the article is not required to be steeled, it is prevented from coming into contact with the carbonizing powder by being covered with clay or sand.

Claim.—1. The use of the ingredients, or their equivalents, compounded as described. 2. Their application, as described, so as together to produce an improved process and economical means of hardening or carbonizing iron, or the surfaces of iron, to any depth, whether in the state of rough iron bars or of manufactured articles.

Specification of patent granted to Jean Baptiste Francois Maseline (ainé), of Havre for improvements in steam engines, and in the machinery for propelling vessels. The "improvements in steam engines" consist in the employment of a slide valve, the cross section of which is the frustrum of a cone. The steam passages are upon the two sides, so that in no case is the pressure of the steam, and, therefore, the pressure, moved with any "little power." The improvements in propelling consist in the arrangement of two horizontal cylinders and to end, the piston rods of both cylinders being connected to separate crank shafts, each of which carries a spur wheel; the spur wheel of both shafts gearing into one pinion, on the screw propeller shaft.

Claim.—1. The slide valve described.—2. The arrangement of cylinders for transmitting the power to the screw shaft propeller.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

G. and E. Cottam, of Winsley-street, Oxford-street, engineers, for improvements in machinery for cutting straw, clover, and hay; for grading, for sawing wood, and in apparatus for ascertaining the power employed in working machines. A. C. Lister, Esq., Bradford, York, and G. E. Donisthorpe, Leeds, in the same county, also improvements in communicating steam or other power for driving machinery. R. Plant, Holly Hall Colliery, Dudley, Worcester, coalmaster, for improvements in making bar or wrought iron. T. Walker, Birmingham, stove manufacturer, for improvements in boots and shoes, and in the manufacture of parts of boots, shoes, clogs, and gaiters. J. Fisher, gentleman, Edinburgh, for improvements in machinery for tilling land. A. C. Lister, Esq., Bradford, York, and G. E. Donisthorpe, Leeds, in the same county, for an instrument or instruments for ascertaining the saltness of water in bolls. J. Holland, gentleman, Larkhall Rise, Clapham, for a new mode of making steel. (Being a communication.) W. Brown, St. James's, Clerkenwell, machinist, H. Mapple, Child's Hill, Hendon, electric engineer, and W. Williams, the younger, gentleman, for improvements in communicating intelligence by means of electricity, and improvements in electric clocks. J. Headley, Bedford-street, Covent-garden, petticoat. J. Chubb, St. Paul's-churchyard, railway strong box. C. Clarke, Birmingham, letter-box patent, applicable also to door-knockers. C. Barrel, Thetford, corn dressing machine.—*Mechanics' Magazine*.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

J. Davies, King's Head-court, Holborn, and C. Maltby, Wood-street, Gray's Inn-road, rotary self-acting tobacco-pipe machine. Simpson and Fountaine, Birmingham, hinge and door for letter-boxes. W. Hart, New-road, Brighton, the Sikh buckle. Deane Dray, and Deane, King William-street, alumum letter box. J. Hardcastle, Firwood, near Bolton-le-Moors, calendar for finishing muslin and other goods requiring such process. Beddington and Docker, Birmingham, solar shade for the outside of windows. Victor D'Anglais, Elm Cottage, Lymington, episcopate oven. C. Barrel, Thetford, gorse machine. J. Headley, Bedford-street, Covent-garden, petticoat. J. Chubb, St. Paul's-churchyard, railway strong box. C. Clarke, Birmingham, letter-box patent, applicable also to door-knockers. C. Barrel, Thetford, corn dressing machine.—*Mechanics' Magazine*.

ATMOSPHERIC RAILWAYS.—Mr. C. H. Greenhow, the patentee of the geometrical railway, has taken out a patent for some improvements on Clarke and Varley's resilient atmospheric tube. They consist in the mode of hanging the tubes at the joints, and of guiding the piston internally by wheels, and a rod fixed throughout the length of tube on one side the longitudinal opening. He further proposes to obtain a vacuum, by causing water to fall from an air-tight vessel to its barometrical level, such vessel being connected by pipes, having suitable valves, with the atmospheric tubes. We must acknowledge our inability to find any improvement in Mr. Greenhow's additions to Clarke and Varley's system; it appears to us to render it complex, without corresponding advantages; and the proposed means of obtaining a vacuum, reminds us, in principle, of Burnier's barometrical railway system, so much discussed in this *Journal* in 1846.

ABERDEEN RAILWAY.—It appears from a report of the chairman of the London committee of shareholders in this company, that he has lately visited the works, and from the rapid progress made by the contractors during the last month, it was expected that the portion yet remaining unfinished might, if a larger number of hands were employed, and a vigorous effort made, be entirely completed to the south bank of the Dee, at Aberdeen, by the middle of September next, instead of only within 12 miles from Aberdeen, as originally contemplated. With a view to effect this object, the directors have given the engineer instructions to press on the works in every department. It is stated that the late estimated cost of the line is not likely to be exceeded, and that the subject of working the line by contract is at present under the consideration of the directors.

RAILWAY TRAFFIC RETURNS.

| Names of Railways. | Length. | Present ac- | Price p. | Div. | Traffic Revenues. | |
|--|---------|-------------|------------|-------|-------------------|-------|
| | 1849 | 1848 | tual cost. | share | 1848 | 1849 |
| Aberdeen | 33 | 16 | 1,000,547 | 19 | 4 | 541 |
| Belfast and Ballymena | 37 | 37 | — | 19 | 8 | 541 |
| Birkenhead, Lancashire, & Chesh. | 19 | 15 | 1,088,804 | 37 | 5 | 1112 |
| Bolton, Blackburn, & West Yorksh. | 14 | — | 785,384 | 7 | — | 814 |
| Bristol and Exeter | 79 | 79 | 2,660,490 | 66 | — | 4486 |
| Caledonian | 141 | 141 | 4,865,135 | 39 | 8 | 6068 |
| Chester and Holyhead | 84 | 84 | 3,858,217 | 18 | 4 | 3184 |
| Derby and Great Central | 35 | 35 | 774,875 | 29 | — | 947 |
| Dublin and Kingstown | 7 | 7 | 395,918 | — | — | 1152 |
| Dundee, Perth, & Aberdeen June. | 47 | 47 | 544,554 | 30 | 6 | 1120 |
| East Anglian (Lynn to Ely) | 91 | 55 | 1,167,104 | 3 | — | 714 |
| East Lancashire | 73 | 24 | 2,628,519 | 18 | 5 | 2694 |
| Eastern Counties and Norfolk | 322 | 285 | 12,027,069 | 19 | — | 16469 |
| Eastern Union | 80 | 80 | 1,715,703 | 18 | — | 1769 |
| Glasgow and Carlisle | 57 | 57 | 2,644,278 | 40 | 6 | 4014 |
| Glasgow and Glasgow | 78 | 34 | 2,232,115 | 11 | 3 | 2401 |
| Glasgow, Paisley, and Ayr | 102 | 74 | 2,574,330 | 60 | 8 | 3624 |
| Glasgow, Paisley, & Greenock | 23 | 23 | 848,328 | 16 | 9 | 1280 |
| Gt. Northern & East Lancashire | 126 | — | 4,365,171 | 9 | 6 | 2243 |
| Gt. Southern & Western, Ireland | 1162 | 1104 | 5,172,919 | 38 | 6 | 3721 |
| Great Western | 230 | 306 | 11,505,815 | 82 | 6 | 17486 |
| Kendal and Windermere | 10 | 10 | 174,500 | — | — | 846 |
| Leamington and Warwick | 70 | 70 | 1,476,109 | 52 | 4 | 9671 |
| Lancashire and Yorkshire | 206 | 127 | 9,218,450 | 81 | 6 | 16658 |
| Liverpool, Crosby, & Southport | 13 | — | 84,456 | 3 | — | 270 |
| London and North Western | 438 | 428 | 25,077,942 | 123 | 7 | 47046 |
| London and Blackwall | 5 | 4 | 1,299,675 | 4 | 12 | 1369 |
| London, Brighton, & South Coast | 170 | 163 | 6,382,281 | 37 | 8 | 11703 |
| London and South-Western | 216 | 194 | 7,510,689 | 36 | 8 | 12817 |
| Londonderry and Enniskillen | 14 | 14 | 171,026 | 16 | — | 148 |
| Manchester, Bury, & Bolton | 129 | 94 | 6,048,879 | 35 | 5 | 3374 |
| Midland Company | 471 | 423 | 14,942,340 | 66 | 5 | 23463 |
| Midland Great Western (Irish) | 50 | 36 | 725,332 | 24 | 4 | 1204 |
| Monklands | 37 | — | 600,000 | — | 6 | 707 |
| North British | 100 | 83 | 3,649,055 | 13 | 4 | 3160 |
| Scottish Central | 48 | — | 1,364,228 | 3 | 7 | 1250 |
| South-Eastern | 48 | 23 | 909,618 | 14 | 5 | 1419 |
| South-Western | 73 | 29 | 1,505,332 | 12 | 3 | 1564 |
| St. Leonards | 165 | 165 | 8,116,914 | 21 | 6 | 10396 |
| Valley | 40 | 40 | 879,110 | — | 7 | 1922 |
| West of England | 36 | 36 | 733,899 | 45 | — | 807 |
| West Cornwall | 13 | 13 | 160,879 | 9 | 3 | 386 |
| Wolverhampton Junction | 259 | 243 | 6,827,940 | 20 | 7 | 19564 |
| Worcester and Hereford | 265 | 242 | 4,983,618 | 30 | 7 | 11316 |
| Worcester and North Midland | 255 | 242 | 4,983,618 | 30 | 7 | 11316 |

347

"S. M. and Son" (Mansfield).—A notice of the approaching sale of Banca tin, at Amsterdam, will be found in another column.—See Notice to "E. J. O."

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* It is particularly requested that all communications may be addressed—
To the Editor,
Mining Journal Office,
26, FLEET-STREET, LONDON.
And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors

THE MINING JOURNAL
Railway and Commercial Gazette.
LONDON, JULY 21, 1849.

There is nothing of an absolutely new description in the mining

history of the week. Both mining produce and mining shares have an aspect of firmness and improvement about them, which must be encouraging and satisfactory to the holders. But there is not, that

we are aware of, any decided movement in advance, or any material alteration in the quotations of this day week. We are glad to announce the termination of the Danish and the Italian wars, and

the return of those states to the more rational and the more remunerative pursuits of peace and commerce. The former of these unhappy contests—that is, the Danish—has been more injurious to

the trading interests of this country than is generally supposed. It has, for its maintenance, placed an extensive line of continental coast under blockade; the Sound, to a great extent, has been closed, and the Baltic rendered inaccessible. In fact, some of the best

and the Baltic rendered inaccessible. In fact, some of the best markets of Germany have been as good as shut to the merchandise and the mining produce of Great Britain. This state of things has just come to an end, and instead of it we are re-entering upon that

We trust, with the enlargement of the area of our markets, we shall, in all our mining districts, experience an improvement in prices and in employment. In railway affairs, the week has certainly presented some features of peculiar novelty. We cannot refer to them at length, and we should be too happy if the facts which have been brought out by an examination of the diary

which have been brought out by an examination into the mismanagement of the Eastern Counties; and some of the north of England ones, could be shown to be of less gravity, or supported by more questionable evidence than, unfortunately, they are. As it is, we

cannot but deplore the ruin which has been brought upon individual character, and the blight which, for the moment, it is to be feared, has fallen on this great national interest.

The holders of shares in the BOLANOS MINING COMPANY should make themselves acquainted with the circumstances which have led the directors to propose an addition to the capital, by resolutions to be submitted to a general meeting on the 1st August. They will

submitted to a general meeting on the 1st August. They will then see that the property in the mine, or mines, now possessed by the company ought not to be sacrificed without making some effort, and that but a moderate one, to save it from following in the wake of other Mexican concerns of a like nature. We will just briefly glance at the history of this company. It was formed in 1823 for working the old mines of Bolanos. The mines of Veta Grande, in

catecas, were afterwards taken, and yielded, in ten years, a net profit of nearly a million and a half sterling, of which the company received half, or upwards of 700,000*l.*; about 70,000*l.* of this profit was divided amongst the shareholders in England, and the remainder, together with the original capital of 300,000*l.*, was sunk at Bolanos. The Bolanos Mines were at length abandoned in 1842, and those of Votandor, having become poorer, were also given up. The company then sold the two small mines of San Clemente and San Nicolas. These were profitable for some time; but failing, they were also abandoned, together with Bolanos, which had, indeed, not produced a single year. Three years ago, however,

ners which had proved unproductive. Three years ago the company attained possession of the Cerro del Bote Mines; and these, with a small one called Celestina, are the only ones they now hold—so that the Bolanos Mining Company at this moment is so only in name. The grants, or *setts*, of the Cerro del Bote are very extensive, and comprise some of the largest known mineral veins in Zacatecas, on the same level as the celebrated mine of Quebradilla, and parallel with the rich bonanzas of Veta Grande. The whole of the veins, or ground, held by the company is virgin or unworked, so that there is ample scope for following the principle of attacking only new ground. This principle having been acted upon in the present case, it is worthy of remark that the first

int opened has produced an amount of returns beyond even the sanguine expectations of the projectors. Everything that has been done—the mining of an establishment, supplying stores, building houses, haciendas, living sheds, and erecting steam engines—has been paid for out of the

The pressure of water as the mine became deepened, has been found to require increased efforts; and this, combined with a change in the vein, an unusual in the district, has led to a temporary falling off in the returns. It is a concern, however, which demands and deserves support. But the shareholders give it that support, and let it not be abandoned as were the mines of Mellado and La Luz, in Guanaxusto, which have since proved two of the richest in Mexico, or the mines of Real del Monte,

over two to use the same. The same thing should have been sold to a Mexican company, just at a time when an outlay of some few thousands of pounds would have put them in a state of permanent profit. Moreover, it must be remembered, that the working mines in Mexico is now better understood and everything is done more cheaply than 24 years ago. The experience has been dearly bought; but surely that dear-bought experience should not now be thrown away.

The improvement of the sanitary condition of the City of London, a subject in which we have long taken a very lively interest, and the discussion of which we have from time to time participated. Our views and opinions, generally, have corresponded with those entertained by the majority of the corporation of this great city, and we believe also with the majority of its inhabitant householders. It is thus seen that for a series of years past the corporation has

Thus it appears that for a series of years these wide-open sewers have dedicated a marvellous sum of practical skill, and a vast amount of expenditure, to the enlargement and perfecting of the sewage of a titanic hive of which they are the official guardians; and that, besides these elaborate works, just below the site of this queen of cities, they have jaken, and are still in course of taking, all practicable means to ventilate, cleanse, and purify, the surface and visible parts of their great charge. This is on all hands admitted; but the omission is qualified with this censure—that their purification of the

Amongst many plans which have been devised for obviating such immoral conduct towards our ancient and illustrious friend, the metropolis river, two have survived the others. It is proposed, first, by a new class of converging sewers, to collect the drainage into an adequate number of district cesspools, from whence it is to be removed by pumps and an appropriate machinery into the country districts for manure.

second method proposed is to construct a mammoth sewer—a kind of supplementary river bed—following the course of the Thames at London, which the floating soil of the entire city may be carried out to sea. We have no desire to anticipate the judgment of the Board of Health, or of the engineers conversant with the difficulties involved in these plans; but, in our minds, there is a strong and commanding impression that the first of these proposals is highly inefficient, and the other highly impracticable. Have we a third remedy?—No; we have not. We believe the evil does not admit of a perfect cure; that a great city is, in this and in other respects, a great evil, and must be borne with, in consideration of its more than countervailing advantages.

No doubt the original foundation of great cities on the banks of, or proximate to the course of, great rivers, was encouraged by the fact, that the waters visiting their ground plots would be highly conducive to the instant cleansing and purifications of their areas; and in using the

Though with those streams he no resemblance hold,
Whose weeds are amber, and whose gravel gold;
His nobler but less costly wealth to explore,
Seek not his bottom, but surrey his shore.

If there be a more compendious and summary method than such an one of removing the sewage of this capital city, we shall be glad to hear of it, but most assuredly neither of the expedients proposed is that method; and we wish at present, and in the absence of more practicable suggestions than those which have as yet appeared, to record our opinion, that the present means by which the night soil of London is disposed of is the least objectionable, and the most efficient by which, either in a physical or an argumentative sense, the solution of this confessedly difficult question can be realised. One consideration we would just submit to the notice of the gentlemen connected with the conservancy of the Thames—viz.: is the bed of the river kept sufficiently clean, and its channels sufficiently clear? It has for some time past appeared to us that, for the sake of the stream itself, as well as for the health of those whose dwelling-places are upon its banks, a score of lighters diligently doing duty for 12 months between Vauxhall and London-bridge might be most advantageously set to work, improving the river itself, and the health of the marginal districts lying along its course.

Lord CAMPBELL, in passing judgment, took a very elaborate view of the nature of offences of this character, committed by directors of companies for the purpose of giving a false colouring to the state of their affairs. In marking on the interview with GILMOUR, his lordship said—

After showing that directors could not be liable for what was said by a shareholder, his lordship continued—

any ground to charge misconduct on the directors, and there was no allegation that false statements had been brought to the notice of the appellant. It could not be said that those accounts, to which reference had been made, were fraudulent, for they appeared to be true statements of premiums which had been received, as well as of profits there made, or according to all calculation would seem to be made at the time. Supposing a company was not worked to a profit, and a dividend was made, and paid out of the gross receipts, it could hardly be said that the directors were guilty of making such a dividend were not only liable to a civil action, but were, in his opinion, guilty of a conspiracy, for which they might be indicted. It was his opinion that Lord CHANCE had been unjustly convicted, as respected the facts of his lordship's case; but, the same time, he was bound to say that he had no doubt that the offence of which he had been accused had amounted to a gross misdemeanour. He had no doubt but that the attempts which were made by the appellants to raise the price of the shares in the market, by means of a conspiracy, in any kind of public market, was a criminal offence. In the present case, however, it did not appear that there were any sufficient allegations sustained so as to connect the imputed fraud with the directors, or even prove that any fraud had been committed. It was clear that the speculation had been proved; but, then, under the circumstances, he had no one to blame but himself. The appellant had shown a want of caution; for had he made inquiries he would have ascertained the facts of the case, and thus have saved many heavy losses. Taking into the consideration the case into consideration, he concurred in the unanimous opinion of the directors as delivered in the court below—namely, that there was not any evidence to show that the appellant ought to be released from the liability which he had incurred.

Lord BROUGHAM fully concurred in this view; he said, in the case of Lord COCHRANE, he believed there was not sufficient proof of conspiracy, and had, therefore, advised the late king to restore him to his rank in the navy.

UNITED MEXICAN MINING ASSOCIATION.

The security on which this property rests does not appear to be understood. Many shareholders, of years' standing, judge only of its value from the dividends paid, added to some vague notion of what the future will produce. They are wanting in a correct understanding of the sources from which the company have derived their profits, and those from which they must obtain their future dividends. This deficiency we shall endeavour to supply; not by giving any detailed history of the past, present, and future affairs of the company, for that, however interesting, would hardly be necessary, but, by stating the leading facts, these features which mark the company's actual condition. A knowledge of them may induce many to hold on and be content with whatever yieldings are in store, in place of parting with their property in a depressed state of the market. Very little doubt exists in our mind that no dividend will be declared at the next meeting, now at hand. It is at a time like this, when funds fall somewhat short, and it is not prudent to declare a dividend, that *bond fide* holders are induced to part with their shares, and large sums are made by their loss; it is then that the market price is often run down below the real value, and shareholders are persuaded to sell out at the very period they should have firmness enough to hold on. The company have derived their profits from three sources—from the working of the mine, from the difference in the price of quicksilver purchased here and used in Mexico, and from the reduction of ores. The owners of the mine are now indebted to the company in the sum of about \$530,000. The profits derived from working it have gone to reduce this debt. About six years ago, a contract was entered into by the company with the owners to work the mine, the company to receive, as the profit to themselves, 18½ bars of the produce out of 24; but this profit was to be accepted in reduction of the debt. The debt was then much larger than it is now; for the profits which have been derived from time to time, and paid away in dividends, have contributed to reduce the amount of debt, which we find to be about \$530,000. So that it might be said that the company have not been dividing out of profits, but out of payments of the debt, or from return of capital; yet, in point of fact, the dividends have been derived from profits of working, since the profits were obtained from the company taking to themselves, under the contract, 13½-24ths of the profits of the mine, and deducting from the debt due to the company. This contract expires in or about January, 1852, so that there are about 2½ years of it yet to run. If the company gather from the mine of Rayas, during these 2½ years, a profit to themselves (being their portion) of \$880,000, they will, saving fractions, have obtained all they can demand from the owners of the mine. But should the profits be not equal to yielding them \$880,000 in the 2½ years, then after that term has expired, they will still have 13½-24ths of the profits. If the owners themselves proceed to work the mine, they must hand over to the company 13½-24ths of the profits until the debt be cleared off; and if they refuse to work the mine themselves, then the company can do so, taking the portion of 13½-24ths until the debt be liquidated. The company have, in legal terms, a lien on the mine as security for the payment of the large debt due to them, and from which, in a great measure, they obtain their dividends. It matters to them little what may be the conduct of the owners; whether honourable or dishonourable. They have the legal and indisputable right, either within or beyond the 2½ years, to pay themselves the amount of that debt. There appears to be no question that the profits of the mine are fully equal to the payment of the debt; it has contributed heretofore largely and steadily to the reduction of the debt, and it is now doing well and promising equal steadiness in its future returns. The only doubt that seems to exist is its capacity to pay the debt off in full, by the end of the term of the present contract; but, as we have said, should that not be done—that is, should the debt of \$530,000 not be paid off by January, 1852—the company have the means to continue the working of the mine in order to obtain it. Therefore, the item of \$530,000, or 100,000, may be taken to rest on a security as good as anything future very well can. As there are 44,000 shares in the company, it amounts to about 2½ 10s. per share. In other words, the shareholders will get from this source alone something like 2½ 10s. per share, either between this and January, 1852, or afterwards.

A profit to some extent is extracted from the transactions in respect to quicksilver. That valuable material is purchased here and sent for use to Mexico, at a profit exceeding 20 per cent. The company also obtain profit exceeding 20 per cent. The company also obtain profit from the reduction of ores, which, as a matter of business, they carry on for other parties. These are, at least the present and past profit. They will also remain in operation for the benefit of the future; but whether they will then be the principal sources of profit we cannot say. Should the new mines turn out as well as many believe they will, the future will be much more indebted to them than to those sources of profit which are now in existence. It is not our province to predict or foretell, and, therefore, we abstain from offering an opinion on the subject. We may, however, when they come to their turn, state what is the present condition and the prospects, as entertained by their managers, of the new undertakings. Besides the debt of the owners of the mine (\$530,000), mentioned above, there is a debt due by the Government to the company, amounting to \$350,000. The prospect of getting this debt paid is now nearer than it has been for some years past. The Mexican Government has appointed a commission for the settlement of the amount of the debt, and to direct its payment. The company claim about \$350,000, but the worth of it would not, perhaps, be calculated by commercial men at more than \$200,000, or 40,000. If it were 44,000, there would be a 1½ share to be added to the 2½ 10s. a share, which we have shown the Rayas debt is equal to; this would make 3½ 10s. per share.

As to the new undertakings. The foremost amongst these is the Promontorio mine, situated next to the Mine of Rayas, and partaking in the nature of its valuable productiveness. The Promontorio Mine is in the hands of the company for a period of 20 years, and has already given some proof of its productiveness, having, as far as the workings have yet gone, more than cleared its expenses. The managers calculate upon finding in Promontorio a good mine. The terms are 18-24ths of the proceeds for the company, the owners agreeing to contribute three to five of the debt, should any be incurred, in the working of it. The bare fact of the owners entering into a contract of this nature, taking so much of the risk of working on themselves, is pretty good evidence of their confidence in the success of the undertaking; that there is something in the mine worth the expense of seeking, and that they entertain little doubt that it will more than pay itself, and produce a profit.

The mine of Aldana has also been procured for a period of 20 years. The terms are 18-24ths of the proceeds for the company, with equal contributions in case of debt; in other words, they share with the owners half the risks, and take two thirds of the profits. The sinking of the shaft has been vigorously pursued, and a depth of 55 varas already reached, giving indication of both gold and silver in its progress. It is expressly understood, that the new mines shall never render a call upon the shareholders necessary. That has been specially declared. They have been undertaken on the principle of aiding the funds of the company without incurring risk, or only such small amount as may be readily met by the means existing a broad, and by no subscriptions from this country—that is, that there never shall be a call or subscription made upon the shareholders. A shareholder's property in the United Mexican Mine Company consists, then, in about 3½ 10s. per share from the two debts due to the company, those of the Rayas family on their mine, and the Government; the profits on quicksilver and reduction of ores, less office expenses, &c.; and the prospects of the Mines of Promontorio and Aldana, of the success of both of which great hopes are entertained, while provision is made that there shall be no risk upon the shareholders. There are other items which may be taken into account to add to the value of the property, such as the money in hand, the large amount of quicksilver at this moment passing over to Mexico, worth about 11,000, bought and paid for, and on which the company make a profit of more than 30 per cent.; the value of the buildings, estimated at about 60,000; of stores above 150,000; and other matters which may be added to swell the value of the property. But our object is merely to point out the substantial position of the company; and that though there may be no dividend declared at the next meeting, there is no reason that future meetings may not follow the grateful course of former ones, and pay dividends.

THE TIN TRADE.—The quantity of Banca tin, about to be sold by the Nederlandse Handel Maatschappij, at the White Swan, in Amsterdam, on the 24 August, is 249,937 blocks; of these, there are 166,705 blocks, in 175 lots, laying in Amsterdam, and 83,232 blocks, in 86 lots, in Rotterdam. Each lot in general averages about 1000 blocks, equal to about 80 tons English. This, however, is not a general rule; many are over 1100. The largest quantity to be sold in one lot (No. 39) is 1379, and the smallest (No. 169), 701 blocks. The conditions of the sale do not materially differ from those in general use here. The duty on Banca tin is 6½ per ton. At present, if brought to this country, it must be for exportation; but, immediately the repeal of the navigation laws comes into force, it can be used in England for home consumption. The total quantity at present offered for sale at Amsterdam, may be calculated in round numbers at 7500 tons. Whether any of these will be warehoused in Holland, until it can be imported into England, under the new regulation, is at present doubtful. We have heard there will be no further sales until the year 1851. The house of Blikken and Sartorius, in Amsterdam, are agents for the sale; the house in London, who in general transact all the English business, is Messrs. Enthoven, of Moorgate-street—one of which firm, in general, attends the sale.

THE IRON TRADE.—Our readers will recollect, that Mr. Charles Geach, of Birmingham, made an accusation against Mr. G. B. Thorneycroft, of Wolverhampton, of having charged a higher price for iron supplied by his firm to the Birmingham and Shrewsbury Railway Company, of which he is a director, than it could have been obtained for of the Patent Shaft and Axletree Company, in which Mr. Geach is interested. From the high respectability of the parties implicated, this subject has obtained considerable interest, and formed a general topic of conversation during the late meetings of the trade; it is known that a committee of investigation has been sitting for some time, and, from what has transpired, it is confidently expected the report will be decidedly in favour of the accused.

MULLINS'S MAGNETIC ORE SEPARATOR.

In our last number, we copied from the *Mechanics' Magazine* of the preceding week, particulars of Cook's patent process for removing magnetic matter from ore; and we observe that, in the following number of the Magazine, the Editor has, in reference to this subject, inserted the following article, which we deem an act of justice to give the same publicity to as we did to the former:

"MAGNETIC ORE SEPARATOR.—AN AMERICAN COPY OF AN ENGLISH ORIGINAL.
"Sir,—In your valuable publication for June 10, 1843, you favoured me, under the title of 'Mullins's White Lead,' &c., with a review of a patent of mine, dated October, 1842; and in your last Number, July 7, you give an account of an apparatus patented in America, by Ransome Cook, Esq. In principle and effect, you will see that my patent is the same. My apparatus is constructed of magnets obtained by galvanic action, and, excepting in mechanical arrangement, Mr. Cook's is similar to mine. After describing my apparatus, and illustrating it with drawings, you will see that the claim set up by me is for 'the application of magnets to separate iron from the oxide of lead, or of other metals.' And to separate iron, the oxides are discharged down a shoot, fixed at an angle of about 30°, formed of wood, or some other non-conducting material, from the bottom of which the poles of a number of magnets project upwards, and to which, a slow lateral sieve-like motion is given by machinery; the magnets attract and retain the iron, and the oxides pass free.—JOHN MULLINS. *Bathurst, July 9, 1843.*"

On this communication the Editor makes the following comment:—
[We have verified Mr. Mullins's references, and find that his statement is quite correct.—Ed. M. J.]

[We also have ourselves examined Mr. Mullins's specification of his patent, and confirm the above verification; but we conceive Mr. Mullins's patent especially taken out for a new process of making unvitrified protoxide of lead, or massicot, rather than, as a prominent feature, the manufacture of white lead.—Ed. M. J.]

SALE OF THE ESTATES AND WORKS OF THE COPPER MINERS' COMPANY.

On Tuesday, the 17th inst., the estates and works of the Governor and Company of Copper Miners in England, established in 1691, were offered for sale, by Messrs. Shuttleworth, at the Auction Mart, when there was a tolerable attendance of parties connected with the company and the metal trade. Mr. Shuttleworth stated, that he was instructed by the trustees, under a mortgage deed, to offer the whole of the property for sale. After reading the particulars, and dilating on the value of the establishment, he concluded with leaving it entirely to the discretion of those assembled to make an offer. After some period, there not appearing any disposition to purchase—not a bid being made—the sale was withdrawn. From what transpired in the room, it appeared that a notice, protesting against the sale, had been served upon the auctioneer by Mr. Lord, the plaintiff in the recent legal proceedings, and who, we understand, is about to file a bill in equity against the company and the Bank of England, impugning the mortgage deed. We trust, however, the necessity of this latter step will be superseded by an amicable arrangement—a committee of shareholders, appointed on the motion of Mr. Gilbertson, at the annual meeting, being actively engaged in taking measures to resuscitate the company, with, as we learn, some prospects of success.

The conflicting interests of the old shareholders, preference shareholders, and debenture holders, which the committee have to encounter, naturally renders this a complex and arduous task. We have, however, great hopes, from their united endeavours, that the solution of the present difficulties of the company is not far distant. Probably the Bank of England may be induced to adopt less stringent measures, and more in accordance with the wishes of the general body of shareholders, now that they perceive the difficulty of realising the property. From the annexed brief description of the establishment, it will be found of such magnitude that it would be difficult for any private individual, unless possessed of great resources, to undertake the responsibilities which would devolve on him by the purchase. In the event of a *bond fide* sale, either a company must be formed to work the entire establishment, as heretofore, or it must be subdivided into separate lots to suit the convenience of individuals.

A great portion of the land and minerals is held under Lord Jersey for a term of 99 years, from the 1st of January, 1840. This consists of 16 farms, containing 755 acres 2 roods 1 pole, with a reserved rent of 3895, 5s. 8d.; in addition to these, there is a corn-mill, a public-house, and tithes commuted at the rate of 74, 8s. per annum. The total royalties paid to Lord Jersey are—For land and tithes, as above-mentioned, 4631, 18s. 8d.; for coal, to be used on the premises, exclusive of that used in blast-furnaces, and not exceeding 131,040,000 lbs., 1000l.; for coal, iron ore, and ironstone, to be used in two blast-furnaces for smelting iron, 5000l.; for ditto, to be used in every additional blast-furnace, 2500l. As there have been three additional blast-furnaces erected since the granting of the lease, these rents are at present 7500l.—making a total of rents, in lieu of royalties, of 27181, 18s. 8d., with 6d. for every 2520 lbs. of coal over the 131,040,000 lbs. The lease includes a right in the lessee to cut timber. About 281½ are deducted from the rents payable to Lord Jersey—part of the farms being on lease to various persons for lives, and does not fall into the possession of the vendors until the dropping of these lives. The property held under Mr. Talbot is denominated the Oakwood. The furnaces, works, buildings, and surface ground of about 33 acres, is held at a separate rent of 2000l. per annum, which includes the Oakwood Wharf. The dead rents are for coal, 18500l., and ironstone, 3000l. The royalty for ironstone and clay is 6d. per ton, and for coal in two of the Oakwood leases it is 7s. 6d. per way for coals carried away, and 6s. per way for coals consumed on the premises; in a third, the royalty on coal is 6d. per ton. On the lease of the Bryn, the dead rent for coal and iron ore is 6000l., and the royalty on both 6d. per ton. The surface rent in all these leases for land used for mining purposes is 30s. per acre. The term of the first and second of the Oakwood leases is 21 years from Midsummer, 1848, and the third is 51 years from Lady-day, 1848. This latter is determinable at the option of the lessees, at three years' notice, with the consent of the owners of the Margam Copper Works, who are entitled to have coals supplied at 4s. 3d. per ton; and the terms of the lease of the Bryn is 30 years from Lady-day, 1848, determinable by the lessees at three years' notice. The Forest Nant Herbert farm is held under Mr. Llewellyn and Mrs. Hopkins for a term of 60 years from September, 1839, at a dead rent of 200l. per annum, and 3s. 9d. for every 23,520 lbs. of coal sold or carried away, and 3s. for every 23,520 lbs. of coal consumed in the Oakwood furnaces, and 3s. for every 23,520 lbs. of iron ore or clay. The coal-field comprised in the company's leases embraces about 120 fms. of the Pennant, which is a deposit of sandstone rock, in the South Wales coal basin. In this portion of the Pennant rock are two seams, called the Wernipistell and Wernudd, which are worked by the company. The strata comprised between Tormynydd and Golden Seams may be considered as a different series, the black band being in geological width 120 fms. Another division measures in group about 80 fms. A third division comprises the coal strata, measuring in geological thickness 160 fms., and is said to correspond with the lowest series on which the Welsh Iron-Works are instituted along the north outcrop of the South Wales coal basin. The extent of collieries and mineral grounds are 4050 acres; surface lands, 1410 acres; rentals received by the company, 4935l. per annum; estimated yearly rental of houses occupied by superintendents and workmen, for which rents are not paid, 15200l. 4s. The power of the works is as follows:—Oakwood furnaces, 160 tons per week; iron furnaces, 800 to 850 tons per week; iron-mills, 3000 tons per month; tin-plate works, 1200 boxes per week; copper-smelting-works, 600 tons per week; copper rolling-mills, 40 tons per week; brick yard, 100,000 bricks per week. There are about 17 miles of 4 ft. 8½ in. surface, and 18 miles underground and surface tram and colliery railways on the Cwm Avon property, 25 miles on the Oakwood, and 14 miles on the Bryn estates. About 2250 iron and wood trams and three locomotive engines. According to the conditions of the sale, the purchase money was to include all machinery and tools, but the stocks of ore, coal, and metal, with all timber not in use, and fixtures, were to be taken at a valuation.

MODUM COBALT-WORKS.—The auction of these works was held on the 20th June; the mortgages on it are at present to the total amount of \$115,000; the only bids were those of Bernburg Goslar, \$85,000, and Baron Bencke von Gritzberg, \$87,000. These not being sufficient to pay the above-named mortgages, the sale was withdrawn until the 20th inst., when the property was to be sold without reserve. The attempts to form a company in Christiania, according to the *Morgenblatt*, have hitherto been unsuccessful; not more than half the shares have been taken. When so much doubt is expressed in the capital of the country, it cannot be expected that shares will be taken in foreign countries, where so little is known of the value of the mines and the projectors of the company.

COAL MINES UNDER THE RIVER DEE.—There is a select committee of the House of Commons now sitting upon the management of the Crown property by the Commissioners of Woods and Forests. That board is at once on its trial, and it is said that some extraordinary disclosures have been made this session (the committee sits with closed doors), in addition to the body of evidence embodied in the report of the same committee during the session of 1848. It is rumoured that there are some curious disclosures made as to the encroachments and usurpations of two or three magnates upon the mines and minerals under the estuary of the Dee, in the counties of Flint and Chester, under colour of certain improvident grants from the Crown in the time of the Stuarts; but it is said that able lawyers put a widely different construction upon those grants, and it is now understood that the Crown has now to put in action its undoubted right to these valuable minerals (coals and ironstone) to get speedy possession of them. There will likewise be a large amount of back profits for somebody to refund, amounting to several hundred thousand pounds. The commissioners are now prompt as they were before tardy in asserting the Crown rights; as a precisely analogous case, "The Attorney-General against Rees and others," where the coals under the estuary of the river Bury, in Glamorganshire, are claimed by the Crown from Lord Cadwall and his lessees, is in full progress before the Master of the Rolls.—*Chester Courant.*

IMPROVEMENTS IN FURNACES.

[Abstract of Specifications of Thomas Newcomb, of Bernersway, machinist, for improvements in furnaces.—Enrolled, July 19, 1843.]

This invention consists in, and has reference to, the construction of the fire bars of the furnaces of steam-engines, in manner set forth, described, and exemplified by the drawings annexed to the specification. The drawings exemplify a mechanical arrangement of the following construction—viz.: A series of inclined fire bars, moving in inclined guides, are fixed to the frame plates of the furnace; these fire bars have projections beneath, which connect them by means of pin joints to longitudinal bars, each alternate fire bar being attached to one longitudinal bar, the other fire bars being similarly attached to another longitudinal bar—so that whilst the one set is being moved forwards the other set is being moved backwards, which not only causes the clinkers to be cleared away, but also sends the fuel to the back of the furnace. One end of each longitudinal bar is, by means of eccentrics, connected to an axis, upon which a pinion is fixed, which takes into cog-wheels in gearing with another pinion, fixed on an axis carrying a drum or rigger, which has motion communicated to it by an endless strap or band, passing around the shaft of the engine, by which means motion will be communicated to the drum or rigger, and thence, through the agency of the cog-wheels, to the longitudinal bars, giving the required motion to the mechanism.

In some cases the patentee makes use of a central supporting bar, in which is an aperture communicating with the water, through which the water flows, in order to keep the mechanism cool. This furnace is provided with a winch handle, for opening and shutting the furnace door. The mechanism of the fire-bars above-described is mounted upon locomotive-wheels.

Having described the nature of his invention and the manner of performing the same, the patentee states, that he desires it to be understood that he is aware that moving fire-bars have been before adopted, what he claims being the adoption of the arrangements described, by which inclined bars are caused to clear the furnaces of clinkers, as set forth.

Patent-office and Designs Registry, 210, Strand, July 19.

BRUNTON'S NEW COLLIERY VENTILATOR.

Among the many contrivances for colliery ventilation which have been called into action by the number of awfully fatal colliery explosions, which so rapidly succeed each other under the present systems, there is one by Mr. William Brunton, which is said to be exceedingly simple, is capable of removing all explosive gases from a mine to which it is applied, and which we have before briefly noticed. It is a machine, we are informed, without valves, or separate moving parts, all the friction consists in that arising from a foot pivot working in oil, when at rest it offers no impediment to the air ascending from the pit, is not liable to derangement, and inexpensive. It may be driven by a steam-engine or water-wheel, and by it any degree of rarefaction necessary to ventilation is rendered certain, regular, under visible inspection, and certain control. The current may be greatly increased during the night, or other period when the pit is not working, and thereby prevent that stagnant and dangerous state of the air now so prevalent during suspension of work. It also possesses the power by which the atmosphere of a colliery can, in a quarter of an hour, be subjected to an exhaustion equal to half an inch of mercury, and thereby powerfully drawing out the gas from the coal, and from the wastes and goaf ponds during the absence of fire or light, and, consequently, of danger from explosion, and also the power of restoring the equilibrium, and clearing the colliery of fire-damp, before the men enter, by a more vigorous and energetic current of fresh air than has hitherto been attainable by the ordinary means of ventilation.

One of these machines is now ventilating the Gelly Gaer Colliery, near Newport, and is giving the greatest satisfaction to W. Powell, Esq., as well as to all the coal proprietors in the neighbourhood, who have witnessed its working. The machine is applied to the top of the upcast shaft by a short tunnel, or air course, and the amount of rarefaction produced is indicated by a water gauge. In one experiment carefully made, 18,000 cubic feet per minute were propelled at the rate of 82 ft. per second through an area of 93 superficial feet, and afterwards through an opening of 4 ft., with a velocity of 70 ft. per second. We have not yet been favoured with an exact mechanical description of Mr. Brunton's arrangement; but from the accounts received of the results of the machine, it appears highly efficient, and well adapted for the important purposes to which it is applied.

PROGRESS OF THE ELECTRIC TELEGRAPH.

On Saturday last, an exhibition of the various machines used in this country and on the continent, for effecting an instantaneous transmission of intelligence between distant points, took place at the Music Hall, Store-street, Bedford-square. Mr. Francis Whishaw, was the exhibitor and illustrator, and explained to a numerous circle of scientific visitors, and others interested in the progress of the development of mechanical power, the mode of working of the machines exhibited, availing himself of the opportunity afforded him to demonstrate the superiority of the plan of telegraphic communication, of which he is the inventor, over that at present adopted on the railways of this country. In the system which Mr. Whishaw proposes, he endeavours to avoid the defects of the telegraphs hitherto used in this country. These defects consist in the exposure of the wires (suspended between perishable wooden posts) to snow-storms and lightning, as also to the mischief likely to ensue from trains running off the rails, and to damage from malicious persons. He takes advantage of the properties of gutta percha, which has been found to be the most effectual non-conducting substance for coating the electric telegraph wires as yet discovered, and he places the wires underground at a depth of about 2 feet 6 inches. When it is necessary to run them under streets, he protects them by means of strong clay multibulbar pipes, and when under railways and public roads, with a coating of gutta percha. In cases where it is necessary to protect the gutta percha from the injurious action of water, he encloses it in a braiding of yarn, saturated with tar, and coated externally with marine glue. All the instruments used in his system require only one wire, both to give the signals and ring the bell, and hence economy is effected. In fact, he undertakes to furnish a telegraph on his plan, with instruments and batteries at intervals of 10 miles, for a charge of 400l. a mile, whereas the cost of laying down the present overground wires is 1600l. a mile. Several instruments suitable for the one wire system, all of which were in perfect working order, were exhibited, and their simplicity and efficiency clearly shown. Amongst them were, Whishaw's "Index telegraph," Whishaw's "Uniformity of time regulator and telegraph," and "the Prussian colloquial State telegraph." This last-named instrument is the invention of Mr. Siemens, of Berlin, and is at present extensively used in Prussia, but is as yet scarcely known in this country. It is one of 12 instruments which were submitted to the Prussian electric telegraph commission, and was selected by them on account of its economy, simplicity, and adaptation to the ends it intended to accomplish. The connection between the terminal points is maintained by means of one wire, and a communication may be transmitted from one to another by its agency with no more effort than is required to be made in passing one's fingers over the keys of a pianoforte. Dujardin's printing telegraph, a most ingenious invention, was also at work in the room, and specimens of the newly-patented "Telephone," or sound collector, and "Telephonon," or speaking telegraph, were also exhibited. Now that economy and reform are the order of the day in railway undertakings, we trust we may soon see Mr. Whishaw's meritorious inventions extensively patronised. Among the visitors present we observed—Sir J. W. Hogg, Bart., General Sir C. Pasley, Count Eyre, Lieut. Col. Sykes, Dr. Murray (of Hull), Rogee, Pettigrew, Major, Surrey, Burchell, Binkard, and Bachoffner; Prof. Donaldson, Messrs. J. Taylor, Ashton, Yates, J. H. Murchison, Albano, Robinson, Webster, Wilks, Grey, Wyndham Harding, Nicholson, Stuart, Sharpe, Bishop, Danvers, Godwin, A. Murray, W. Murray, Miss B. Murray, Mrs. Maitland, &c.

THE ELECTRIC TELEGRAPH.—The directors of the London and Birmingham Railway are about making a dangerous experiment with the telegraphic business on their line. Economy is commendable, but it may be carried too far—and such will be found to be the case in the present instance, if we mistake not. As we are informed, the Telegraph Company are to keep their own employees at the several offices during the day, while the Railway Company are to work the instruments at night. This arrangement is looked upon anything but favourably by those persons who are intended to be elevated to the post of honour, as they consider that their duties are sufficiently onerous already, without having additional ones—and particularly of so responsible a character—imposed upon them.

REVENUE OF THE DUCHIES OF LANCASTER AND CORNWALL.—The revenue of the Duchy of Cornwall for the past year amounted to 67,521, 7s. 3d., and the expenditure to 38,192l.; leaving a balance available of 29,329l. Of this sum, 24,600l. have been invested in the purchase of beneficial interests—thus leaving a balance in the hands of the receiver general of 4789, 15s. 5d. The revenue of the Duchy of Lancaster, in the same period, was 38,036, 14s. 2d., and the disbursements 33,802l.; leaving a balance of 4513l. in the hands of the receiver general. The payments in the course of the year out of this revenue to her Majesty's privy purse amounted to 12,000l.

ROYAL ASSENT TO RAILWAY BILLS.—On Friday week eight railway Bills received the Royal Assent; the amount of capital authorised to be raised being 560,000l. on shares, and 186,666l. on loan—total, 746,666l. 17 railway bills, including the above, have received the Royal Assent this session, authorising in the aggregate 2,106,500l. to be raised on shares, and 758,837l. on loan—total, 2,865,337l. This sum is principally required for the completion of works already sanctioned by former Acts.

Original Correspondence.

THE COBALT TRADE—METHOD OF DRESSING AND REDUCING THE ORES AT THE MODUM COBALT WORKS.

Sir,—As these works appear to have excited some notice in England, some personal remarks made on the spot may not be uninteresting to your numerous readers. Cobalt ore was first discovered in the district of Modum, in the year 1772, by a miner of the name of Ole Witlock, who had previously been dismissed from the service of the Kongsberg Silver Mines. In the following year, the director of those mines commenced operations at Modum for account of the Danish Government. These works were prosecuted with various fluctuations until the year 1822, when they came into possession of the late proprietors. The mines are situated on a range of hills on the Skuterud estate, in the parish of Modum. The formation of the hills, and the occurrence of the metalliferous deposits, are particularly interesting, and widely differ from those we are accustomed to see in the Cornish mines. The range is composed principally of gneiss, with beds and layers of felspar, quartz, and hornblende; the strata run nearly north and south, with a westerly dip. The metalliferous part varies very considerably both in size and mineral contents; it runs with the strata, and is called a *fahlband*, derived from the word *fahle*, to fade, and *band*, a stripe. It may be distinguished from the other strata by its brown appearance, arising from the decomposition of pyritous and ferruginous minerals with which it is impregnated. The ores of cobalt occur only in a strata of gneiss, and seldom or never in those of hornblende, where they are generally replaced by arsenical pyrites. The more abundant deposits are found in micaceous gneiss, rich in felspar and quartz; but, on a transition taking place to hornblende gneiss, the ores of cobalt are rarely found. The old mines are open excavations, resembling deep quarries; but latterly a system of levels and shafts have been introduced, which will enable the proprietors to excavate the produce more advantageously, and a greater extent of metalliferous country will thereby be explored. A series of adits supplied with railroads are well adapted to facilitate the operation of draining and clearing the workings; and these, as well as the other machinery and erections on the mines, are good and substantial. The railroads are made of cast-iron; the rails and saddles being cast together in short lengths—the former being 2½ in. high, and ½ in. thick. The large and, for mining purposes, apparently inconvenient tram wagons are brought to the surface, where they are chained to a trip, and capsized with a lever. The principal adits and levels are excavated by burning with wood, of which a plentiful supply is found in the vicinity of the mines. This process has been found more expeditious, less expensive, and subjects the miners to fewer accidents than the usual mode of blasting. The metalliferous and other strata follow the run of the mountain, with all its indentations and irregularities; but where the latter ends abruptly towards the south-east, the metalliferous deposit is no longer to be found. In the opposite direction, towards the north-west, its continuation has been traced to Snarum, a distance of about eight English miles, where cobalt works have also been erected.

The dressing department is attended with great difficulty; and it requires an experienced eye to detect the extremely minute particles of cobalt, which in ores of a low quality are thinly disseminated throughout a quartz ore matrix. On being brought from the mines, the ores are divided into three classes, denominated *rich*, *medium*, and *cupreous ores*; these are again subdivided into *prills*, *dredge*, and *halvans*—each requiring a different treatment in the subsequent processes. These operations are all performed at the mines; the produce is afterwards transported to the stamps, which are erected at Hougfos, on the Simoa river, about seven English miles distant, and opposite the chemical works. The cascade presents a fall of sufficient height and force to drive the most powerful machinery; the flow of water is very rapid, and ice never forms on the falls, so that they may be employed for every purpose throughout the winter. There are here two extensive stamping machines—the one containing 36 heads, the other 18. They are not supplied with gratings, as in England; but the water, impregnated with fine particles of ore and slimes, flows over a splash board—the size of the stamped ore being regulated entirely by the height of the board over which it passes. The larger particles are caught in a long quadrangular trough; whilst the slimes flow into a series of pits, where the water is nearly still, and a subsidence of the mineral takes place. The stamped ore is next cleaned from its stoney matrix by washing on long flat tables, which are stationary; but these are not found so advantageous as the shaking table (*stodsherd*), which is more convenient and economical; the latter, however, is said not to answer quite so well for very fine slimes. In some of the poor ores, the cobalt is so minutely disseminated throughout the stone, that these require to be almost reduced to an impalpable powder, and, consequently, the loss of metal, by stamping and washing, must be very considerable. The clean ore, being rich in metal, is next collected in iron pans, and dried on a small stove, erected for the purpose, from whence it is taken to the manufactory, to undergo the chemical processes employed for preparing it for the market. Some of the low quality ores are so poor, that only 10 lbs. of clean ore are obtained from a barrel of stamps stuff, containing about 750 lbs., or about 1½ to 1¾ per cent.; and supposing this to contain 50 per cent. of metal, the stamps halves would only yield from ¾ths to ⅓ths per cent. of reguline cobalt. This does not, however, apply to the produce generally; but I allude to it merely to show the extremely low quality at which ores of cobalt may be worked, combined with others containing a higher per centage of metal.

The first process in the chemical department is calcination, which is applied to ores of every quality, for the purpose of volatilising the arsenic and sulphur with which the cobalt is mineralised. The richest and purest ore, after calcination, is melted with quartz and potash, in variable proportions, and forms a glass of a dense blue colour, which is the *zaffre* and *smalts* of commerce. With poorer ores, other and more difficult processes are employed, by which the cobalt is extracted in a reguline state, after having been subjected to calcination, and further reduction in crucibles of a large size. The metal thus obtained is pulverised, and afterwards treated very similar to the richer ores, by fusion with quartz and potash, in proportion to the degree of intensity required in the colour of the glass. The quartz employed is perfectly white, and of the purest kind; it is rendered friable by heating in a furnace, and is afterwards pulverised in stamps erected for the purpose—the heads of which are stamped from lumps of quartz, instead of cast-iron; this metal cannot be employed on account of its injurious effect on the colours. The crucibles in which the composition is melted are 18 or 20 in. deep, and 8 or 10 in. in diameter; they are manufactured on the spot with a mixture of pipe-clay and old fire-brick, the latter well cleaned and pulverised. The furnaces for melting the composition are constructed in a manner somewhat resembling a common bake oven, but round instead of oval. Each furnace contains six crucibles, which are placed in a round bed, made to receive them. There are also six openings in the sides for attending to the crucibles; and from the large open fire-place underneath the flame ascends, which melts the composition into a glass. The fuel employed is principally the wood of pine and Scotch fir, which can be procured in almost any quantity from the immense extent of forests in the neighbourhood of the works. The next process consists in grinding and preparing the glass; this is performed in cisterns, either with millstones of quartz or large revolving rollers of the same substance. Some of the grinding apparatus resemble corn-mills; whilst others are not unlike a cider-press. The large stone in the bottom of the cistern is about 3½ ft. in diameter, and 4 ft. thick; on this two semicircular stones move to and fro, at the distance of 10 or 12 in. from each other, and grind the glass into a paste with water. The large revolving rollers, resembling a cider-press, produce the same effect. The paste is next strained into water; and the finer particles held in solution are poured off and allowed to subside; this sediment, when dried, is the cobalt of commerce. The coarse particles are returned to the mills, where they are re-ground, and afterwards treated in the same manner as before. The various qualities are denoted by different marks; these are divided into two classes, denominated *eachel* (*zaffre*), and *coleur* (*smalts*); their component parts do not materially vary—the only difference being in the fineness of the powder; the former sort is generally of a lighter blue colour than the coarser. These are marked from 5 FE, or 5 FC downwards, and represent the qualities of the products obtained from the different compositions. The ores contain a great quantity of arsenic, which is collected in a long gallery, ending in a chamber; it is afterwards put into close barrels, which are sometimes buried in the ground, and at others kept in houses built for their reception. Some years ago, a large quantity was taken far out to sea and thrown overboard. The great accumulation of arsenic is a subject of much annoyance to the works, as they can neither get rid of it by land, water, or volatilisation—either of which would be equally destructive to animal and vegetable life. Great

precautions are taken to prevent the escape of this deleterious vapour; and the workmen employed on the premises appear healthy, and less affected than from the nature of their employment any one could have supposed. I sent a sample of this arsenic to a manufactory in Cornwall, in the summer of 1844, with a timber vessel from Drammen to Falmouth; but, having received no reply to my communication, I suppose that it either did not come to hand, or else was not approved of by the parties to whom it was addressed.

A company is about to be formed in Christiania for the working of these mines, which has given, within the last 20 years, \$500,000 in profit. Owing to the general stagnation in mercantile affairs, and the introduction of ultramarine, the sales for last year were only 17½ centner of 5 FE, to the value of 1597; 654½ centner 4 FE, 4525½; 94½ centner 3 FE, 454½ 10s.; 210 centner FF *zaffre*, 2128½, in all, about 7266½ 10s. This, however, cannot be considered a criterion. The respectable firm of Solly, Lister, and Co., have stated that, in England alone, during the present year, about 400 barrels of smalts, and 300 barrels of *zaffre*, to the value of 11,000l., can be sold. There is no doubt that a company taking these works, with a capital of about \$150,000, would find them a profitable concern.

Should these remarks be of any interest to you, I shall be happy, at a future period, to give you some further information respecting the other Norwegian mines, which I have no doubt will be of interest to your readers. *Allen Copper-Works, Finnmark, May 28.* S. H. THOMAS.

RAILWAYS AND MINES.

Sir,—It was not my intention to have entered upon this subject again, as I had no desire to run down the mining interest, especially as I am personally interested in its success, both as a shareholder and a lessor; at the same time, as your correspondent, "Placer," invites a reply, I cannot refuse to comply. If I correctly understand the purport of his letters, they are intended to show that mining, as a money investment, is preferable to that of railways. I am, with him, ready to admit that the subject has not been fully entered into, or proof given, as to either investment which of the two is to be preferred. The losses upon both descriptions have been severe to those who have speculated beyond their means; but if losses upon shares, and slender dividends upon the aggregate, prove that railways are bad investments, the very same arguments must prove that the mining interest is in a no better position. Railway property is comparatively a new description of investment, and as some of the early lines made such good profits, railway after railway was projected, until in 1845 and 1846 the country appeared likely to have been covered with these iron roads, had those projected been completed. There is (fortunately for the mining interest) a difference between projecting a railway and making it; and those who will take the trouble to investigate for themselves, will discover a difference in railways as to their value after they are made, irrespective of the price of the shares, for the price is not always a correct index of the value.

If a railway possesses the elements of a good traffic, such a line may at present be low in price; but if its cost per mile be moderate, it will be sure to pay a fair interest on the capital expended. If the expenditure should be heavy per mile, the traffic must be above the average to pay a fair dividend. The Blackwall Railway, for instance, has an immense traffic per mile; but the cost per mile being unusually heavy, the dividend is small. The cost of the London and North-Western per mile was great; but the traffic is also great, and the dividend is good. It is impossible for me to enter into this subject so fully as desirable, on account of the large expenditure incurred upon lines not yet opened, and the great extent of mileage but recently in work, the traffic upon which is by no means fully developed, neither will it be for some three years to come. It should not be forgotten, that most of these new lines have cost less per mile on the average, or will cost, and that, therefore, they will not require so great a traffic per mile as some of the older lines, to enable them to pay a fair dividend. There is no reason for apprehension that railways will cease to become the high roads for the transit of both passengers and merchandise, or that they will not, with some few exceptions, pay a fair interest upon the expenditure, unless the country should become less populous, and the commerce of the nation be destroyed; they will be worked long after some of the crack mines of the present day have ceased to command attention, except to the passing traveller, if we can judge of the future by the experience of the past, since but very few of the mines continue good for many years. If a reference be made to the favourite mines in the list for March, 1842, a period not by any means remarkable for great speculation, we shall find that in some cases the shares have fallen in value since that period 1300l. per share! taking the highest quotation then given, and the highest price now named, and that none of the *high priced* shares of that day have fallen less than 300l. per share in value. Even since the 9th of June last there has been a fall of 240l. per share in one mine, and of 150l. per share in two others, with some rather considerable reduction in the value of several more; on the other hand, there has been an improvement of 25l. per share in the case of one mine, and some slight advance upon other shares; the aggregate amount of the depreciation since the above date would tell considerably upon the value of the property given below, after deducting the gain upon others since that time. Taking the whole amount expended upon British mines *now in work*, according to the list in the *Mining Journal* of June the 9th, 1849, after omitting those mines where the sum paid and price per share is not given—

| | |
|---|------------|
| The total expenditure is | £4,056,043 |
| The value of the property at the highest price then given | 2,918,427 |
| Shows an aggregate loss upon the expenditure of | £1,137,616 |
| In the foreign mines, the sum expended is | £5,149,989 |
| The present value of the property, at same date | 1,237,437 |
| Shows a loss upon the amount expended of | £3,911,496 |

Which will show a total loss of 5,049,111l. upon an expenditure of 9,214,975l. in British and foreign mines *now in work*. From the utter impossibility of ascertaining the aggregate amounts expended upon mines during the last seven years, since abandoned, I must be content with this statement, which of itself clearly shows that, as a speculation, mining is by no means, on the average, very promising, and that a person is more likely to lose a fortune than make one; and as it is absolutely impossible for any person to say with certainty that such and such a mine will yield a good return for the outlay, I do not see how a person is, in the early stage of a mine, to be guided in his selection, since there are so many contingencies which so frequently cause disappointment in the hopes of the sanguine adventurers. Some few mines prove the source of immense profit; this encourages a host of needy adventurers on the look out for good situations. I was applied to by a party, some few years since, to grant a sett, as it is termed; the would-be captain was as certain that the mine was worth 20,000l. as he was that money would be forthcoming from a London company to work the mine. A company was formed, and fine specimens were shown, taken, of course, from the mine; there has been plenty of prattle about gossan, mudiic, and other first-rate indications, and I believe most of the first holders managed to sell their shares at a very considerable premium; but the mine has not returned anything either to myself or adventurers, though they hold out a prospect of "a good time coming," and I hope this result may be realised; but from all I can learn, neither myself or the shareholders are likely to derive anything therefrom but loss and vexation. As to the profit upon British mines, it appears from the last statement published, that the dividends do not quite amount to 4l. 10s. per cent. per annum upon the expended capital; and as the mining interest is not a new thing, it is, perhaps, not unfair to conclude that this, in the aggregate, will be materially increased, as the mines at present good cannot, in the course of past experience, be expected to continue profitable for any long period, irrespective of the value of the produce. The income derived from railways does not at present quite amount to the same rate per annum as that derived from mines, if the total expenditure be taken into account. When most of the new lines and branches of old lines have had time to develop their traffic, and those lines are opened which are now in progress of construction, I shall not fear a comparison; but under present circumstances, it cannot with propriety be made at the present period. With regard to the question by "Placer," as to the mileage worked by the Great Western in June, 1848, I will inform him that it was 281½; these figures include the 75½ miles of the Bristol and Exeter, the receipts of which line were, and are, included in the traffic receipts of the former up to the 1st of May last. The mileage of the Great Western is now 230, that of the Bristol and Exeter 87 miles. The mileage of many of the railways is not correctly stated in some of the traffic returns, and I have frequently on this account experienced some difficulty in estimating their relative value. In conclusion, I will observe that, in the preceding remarks, I have been actuated by no "bearish disposition" towards the mining interest, and have, with regard to it, only stated things as they are, and hope that some improvement may shortly

take place; at the same time, I must say that I cannot see why any one connected with that interest should take credit to himself for his sagacity, should be fortunately obtain a prize in that most uncertain of all speculations.—VERBUM SAT.: *Devon, July 14.*

VENTILATION OF MINES—THE SEWERS OF LONDON.

Sir,—Within the last few days, I have been summoned to give evidence before the Lords' Committee, now sitting on the loss of life in coal mines; and my attention has been called to a parallel case—the sewers of London. The sewers of London may be rendered free from aerial poison, which now fills them, and runs over at every gullyhole and open mouth into the streets, tainting the atmosphere and destroying life, with less difficulty than the immense galleries of our northern mines.

We ventilate 70, 80, and sometimes 100 miles of passages, discharging light carburetted hydrogen and other deadly gases, to the amount frequently of 5,000,000 cubic feet in the 24 hours, and render them so pure, that the men live and healthily work in them. The galleries of a coal mine are a series of passages, like the London sewers, always emitting deleterious gases. Could we not sweep away these immense collections, the miners could not work in the galleries without being poisoned.

The whole sewer passages of London, on both sides of the Thames, do not exceed collectively 500 miles. Twenty of our largest coal mines, out of the 140, possess more than the same extent of passages, and of larger sectional areas. We ventilate these extensive passages at very little cost, then why not ventilate these similar underground passages—the sewers of London—and free the inhabitants from the pestilential effluvia that now infests them? The high-pressure steam jet will most effectually do this. It at this moment is passing through the extensive galleries of Seaton Delaval coal mine, amounting to between 50 and 60 miles of aerial "sewers," upwards of 135,000,000 cubic feet of fresh air in every 24 hours. It is in evidence that the gully holes of the London sewers being first trapped, this jet will drain off to particular points these poisons, which, no doubt, aid the progress of the present pestilence, pass them through, decompose, and purify them by fire. The phosphureted, sulphureted, and light carburetted hydrogens can thus easily be disposed of, and the sewers of London will then, possibly, be better ventilated than her streets are now.

The steam jet of Mr. Goldsworthy Gurney, which blew out the whole contents of a coal mine, and filled it with fresh air in the course of an hour, as stated in the *Mining Journal* of the 5th May, is also applied to decomposing furnaces of chemical works, for effecting condensation and ventilation. It is found a better process than that of furnaces and high chimneys. In one instance, I know it is now condensing upwards of 43 tons of muriatic acid gas per week, which used to escape and destroy the vegetation for miles, to the great cost, almost to the annihilation, of the manufactory. There can, then, be no difficulty in its application to purify the sewers of London, for the former gases are far more difficult of destruction.

JAMES MATHER,
Hon. Sec. to the South Shields Committee, appointed to investigate the causes of accidents in coal mines.
London, July 18.

ON THE ACCUMULATION OF GAS IN UNDULATIONS, &c.

Sir,—Your correspondent, Mr. Evan Hopkins, in answering my letter, has prefixed the title as above, and has drawn his deductions from the circumstances which attend the working of the thick coal in Staffordshire, which he says is a common occurrence there. He thinks the north country viewers have seldom seen pipes employed "for clearing the backs of old workings, and in rising to meet the sinking of shafts," &c.; but in this he is much mistaken, at the same time they are two totally different applications. In the one case, the old workings must be insulated; and in the other case the piping is superseded either by bratticed air (a monster pipe), or a double air drift. As to the theory of the carburetted hydrogen lodging in the upper parts, except removed, it is now stale, for the columns of your Journal have had countless schemes of piping founded upon it, not one of which has hitherto borne the test of practice. But to come to the practical test; let Mr. Hopkins imagine himself in a north country colliery, to which is attached hundreds of acres, part standing in pillars, and other parts constituting goaves, filled either with carbonic acid or inflammable gas, which gas must either be carried off by ventilation or be piped. Further, let him suppose that such goaves exist in three or four divisions of the colliery, distant from the shaft 800 or 1000 yards each. Now, let him give us the size and expense, and practical application of his system, whilst I forego the objection formerly made of getting the gas into the pipes without the air of the mine. This will be worth a volume of theories. I suspend the notable fact that the pores of the whole coal give out the gas which is invisibly mixed with the air current, and cannot be got hold of by pipes, for the position of the working places is continually altering. Had gas been suspected to be lodging in the Hebburn undulations, undoubtedly the ventilating current could have been then directed, and the danger removed. Mr. Hopkins says, "the greater the intensity of the ventilating current caused by steam, or otherwise, the greater the danger." This, indeed, is inexplicable, and would, I doubt not, baffle the efforts of the Lords' Committee, who are examining evidence as to the "best means of producing intense ventilation."

Undoubtedly, the splitting of air during the infancy of the practice had its difficulties; but these difficulties are now at an end, if only a sufficient supply can be had for the application. The piping system has been discussed; now for the "boring down" from the surface. In collieries where the coal is upwards of 100 fms. deep, and the strata abound with water, the expense and mischief of such an operation, however simple in theory, renders it totally impracticable. He instances Staffordshire, as being applicable to such a system, and possibly it might in some cases; but in no part of the kingdom is there so great a superfluity of shafts, nor so great opportunities of having immense ventilation, since the seam is 30 ft. thick; therefore their fashion of mining may be very properly called in question, as it constitutes vast magazines of gas which are there shut up; but as the working of this seam is unlike any other practice, it requires deep thought and much investigation before it be properly judged of.

Mr. Hopkins always keeps harping upon "the upper cavities being scoured out;" but I ask him to consider a tract of some scores of acres all in a state of thrust, and filled with gas, the upper cavities of which he cannot get at, and then how will he apply his pipes? He says, "It matters not by what means the gas is forced out, whether vertically or horizontally, if it is expelled." Here, at least, we agree; but in what we differ is, the practical means of doing it in an extensive colliery, not in a laboratory. He speaks of the opponents of the splitting system; I candidly confess that I do not know of any such, for it is indispensable to the working of a fiery colliery; but, like other useful arts, it may be abused. In conclusion, I have only to repeat that the piping system, by whomsoever promulgated, is totally inapplicable to the ordinary workings of a mine; therefore, if so, it is no sort of remedy for the evil sought to be removed. If your correspondent answers this letter, I trust that he will apply himself to the practical points, rather than enlarge any further upon the desirableness of this or that. The only object in continuing the discussion is the hope that it may attract the attention of parties who may avail themselves beneficially for the saving of life, either by piping or ventilation.—D.: *Newcastle, July 12.*

GOVERNMENT INSPECTORS OF COAL MINES.

Sir,—Trusting that you will not allow your widely-circulated Journal to be the medium of an injurious misrepresentation, I hope that you will insert a few lines on the subject of the commissioners newly appointed to examine the colliery districts, however much they may be opposed to the opinions which you have been pleased in two or three late Numbers to express. You, Mr. Editor, and Mr. Wylde, in the House of Commons, have both asserted that the gentlemen selected for that office "have no practical knowledge of the matter they are about to report on," and that "their inspection will be worse than useless." Now, the public has a right to expect, both from the Editor of an important paper, and from a Member of Parliament, in his place in the House, that they should obtain some acquaintance with the subject, before hazarding so decided an opinion; and yet, if those attacks on Messrs. Phillips and Blackwell are not due to ignorance, they can only be ascribed to a wilful perversion of facts, which, knowing your zeal in the cause of increased security for the collier, I cannot believe to be the case.

I am unable from personal knowledge to speak of Prof. Phillips's qualifications for the office; but of Mr. Blackwell I must unhesitatingly say, that a man better fitted for the duty could not have been picked out in all England; he has for many years, and with great success, managed his own collieries, and by devoting himself with much energy and enthusiasm to the details of underground operations, has acquired a more extensive knowledge of our coal and ironstone pits than, perhaps, any other man in the country. Moreover, he has just returned from the United States,

where he has employed many months in purely practical investigations of the modes of working their great coal-fields.

The viewers and workers of coal in the Midland colliery districts, well knowing Mr. Blackwell's high character for skill, zeal, and integrity, will, I am sure, unanimously approve of the appointment.—A TRUTH LOVER. Flintshire, July 17.

MR. JOHN BATH'S SUGGESTIONS FOR THE VENTILATION OF MINES.

SIR.—The attention of your readers cannot too often be called to the important subject of mine ventilation, and I feel sure you will have pleasure in referring to a proposal some time ago submitted by a correspondent practically acquainted particularly with Cornish mining affairs. The communication was as follows:—

SIR.—Owing to the lamentable loss of lives which have come to my notice through the explosion of gas in coal mines, I have for a considerable time given the subject my serious consideration, and am induced to offer the following as the result. By the process in the annexed plan (the cost of which will not exceed 20s.), it can be acted on during the absence of the miners at any time, and will be found a sure and safe remedy against such awful occurrences of the loss of so many lives. &c. JOHN BATH. Smelting Works, Battersea, April 22, 1847.

Mr. Bath proposed the firing of destructive gas by electricity, and your readers will find drawings of his plans, with descriptive references, in your Journal of the 24th April, 1847. To this plan it was objected, that it would still leave the "choke damp" to be contended with. On which Mr. Bath projected a simple mode of removing it, and at the same time ventilating the mine. His proposal was to effect this by steam, after a plan of his own. He writes to you as follows:—

SIR.—I beg to submit the following suggestions to the consideration of your readers. From attentive reflection on the subject, I am induced to believe that the idea will be considered one of practical value, &c. JOHN BATH.

In the upcast shaft, Mr. Bath proposed to place a simple apparatus for causing a strong current of air upwards by steam jets, and your readers will find drawings, with descriptions, in your valuable "recurring" Journal of the 22d May, 1847. Having for some years experienced the power to be obtained by a jet of steam with certain mechanical arrangements (the patent property of Mr. Chambers, of Llanelli), in engendering a powerful blast of air, and used by us (in preference to driving a powerful cylinder blast-engine) for the purpose of oxidising lead in the process of refining silver, I cannot but regard Mr. Bath's proposals for ventilating purposes otherwise than worthy of the attention of your mining friends. Battersea, July 16. JOHN MULLINS.

MALLEABLE IRON SCREW PROPELLERS.

SIR.—In your last Number, you have a paragraph headed "Malleable Iron Screw Propellers." It contains an account of the making of a wrought-iron screw propeller, 12 ft. 8 in. in diameter, and mentions it as an experiment, of the successful result of which sanguine hopes are entertained, &c., &c. It also avers that hitherto cast-iron and brass only have usually been used in making screw propellers. This is an error; they have been made of wrought-iron for several years past by several makers. I have seen them of all sizes, from 12 to 16 ft. diameter, some forged solid and some in pieces. They answer well; and I have no doubt that it is the best material for their construction. If the Woolwich authorities think they are trying something new, they are evidently under a mistake; and, as for the "amount of ingenuity" displayed, the process of forming them is one of the simplest that can well be conceived. July 17. AN ENGINEER.

THE GLASS TRADE.

SIR.—It appearing evident to me that we are much behind-hand in the important manufacture of glass, and entertaining views of being able to restore to Great Britain her superiority in this trade, allow me to request the favour of your inserting this communication in your next Journal. The decline in the glass trade, which so rapidly increased immediately after the repeal of the duties, may be traced to the successful efforts of our neighbours in Belgium, where I have resided a number of years, actively engaged in mining and smelting pursuits. I have some friends who are glass-house proprietors about Charleroi, from which place many good Belgian workmen have emigrated to England, and found there that liberal support from the glass makers, which they richly deserve for their superiority in a certain branch of this interesting manufacture, and which appears, if I am right in my conjectures, to have thrown a gloom over the glass trade in Newcastle and other parts of England.

My principal object, however, is to request you to make known to your various scientific readers that, in the course of a smelting campaign, I have seen the possibility of constructing a furnace suitable for the manufacture of glass, having the following desirable and superior properties:—1. An intense heat, variable at will, and totally independent of the skill of the fireman.—2. The fuel used, be it what it may, can have no other effect on the materials of which the glass is made than fusing the mixture. This, of course, will startle the scientific.—3. The consumption of fuel is considerably diminished.—4. The pots, or crucibles, warranted to stand three times as long as under the present system. These, Sir, are important properties, and well worthy the attention of the glass manufacturer; and, I believe, no one but myself is aware of the mode of construction of this furnace. I am willing to treat liberally with any gentleman of capital interested, who will in return act the same towards me. Securing a patent would be productive of great profits to the patentees, and, I verily believe, would raise the glass trade to a greater degree of prosperity in Great Britain than it has ever yet enjoyed. BRITANNICUS. Philippeville, Belgium, July 18.

THE DIAMOND.

SIR.—In looking over your excellent Journal, of the 7th instant, I see some remarks on the diamond by Dr. Murray, which had before escaped my notice; and am much surprised at his observation, with respect to a previous paragraph on the subject, that it was "remarkable for its unaccountable mistakes." I am generally highly gratified with Dr. Murray's communications, which are usually correct; but on this occasion he will find, on inquiry, that his "good authority" is "remarkable" for incorrectness, when he states "that the best diamond cutters in the world are to be found among the lapidaries of London." As the writer of the paragraph in question, I beg, through your columns, to state, that its general correctness is undoubted—having had my information from a highly respectable diamond dealer and glaziers' diamond manufacturer, besides other authority, and my own personal observations. The re-polishing the Nassau diamond, by Messrs. Storr and Mortimer, bears out my observations as to that respectable firm bringing over a Dutch family, and establishing them here, with the view of being able to cut and polish diamonds in the metropolis. Although a diamond cutter and polisher is of necessity a lapidary, it does not follow that all lapidaries are diamond cutters; and, if the Doctor will take the trouble to inquire, he will find that of the five names under the head "DIAMOND CUTTERS, SETTERS, AND WORKERS," in the Post-Office Directory, one only follows the art of diamond cutting—that one is Miss Do Yongle, 80, Harrison-street, Gray's Inn-road, the representative of the family above-mentioned. The late eminent firm of Nettle and Bridge were equally aware, with Messrs. Storr and Mortimer, of the desirability of establishing the diamond cutting business in London, and in one year, it is said, sacrificed many thousand pounds sterling in the attempt, from the cost of machinery, the depreciation of many valuable gems, and the utter spoliation of others, in the endeavour to imitate the workmen; and, in the end, were obliged to relinquish the attempt. I believe I shall, on inquiry, be found correct in these remarks; but shall most thankfully receive correction, if in error. G. WILLIAMS. St. John's-square, July 18.

CALCAREOUS DEPOSIT IN WATER.

SIR.—I fear that the deep well water of your correspondent at Oldford is not so good comparatively as he imagines, as it appears from the constituents in an imperial (?) pint that the imperial gallon contains 96 grains, which is very near twice as much as I found in the deep well water of one of the largest London breweries, and fully six times as much as the solid contents of the water of the London Docks. The absence of carbonate of soda and iron in the water in question is remarkable, considering the large quantity of salts it contains. In the analyses of the purer waters alluded to, which were made about 10 years since, I found in them both carbonate of soda and iron. The presence of the former salt in Thames water has since been amply confirmed by Dr. Clark. The best process with which I am acquainted for purifying water is that of Prof. Clark, of Aberdeen; but in candour I must say, I have not yet had the good fortune of knowing the principles of Mr. Horsley's patent. In Dr. Clark's process, lime water is used, and the hardness of any water is tested with great nicety by a solution of soap. The former, if added in the proportion which he indicates in his specification, will free the water of the greater part of the lime and magnesia held in solution by an excess of carbonic

acid. Thus the water in question, containing 18·4 grains in the imperial gallon, of carbonates of lime and magnesia held in solution chiefly as super-carbonates, would be deprived by the addition of a certain proportion of lime water, of nearly the 18·4 grains of the above salts. There is another process, which I think is very good, and which I first used seven years ago, for purifying water, and have occasionally resorted to it to render very hard water capable of infusing tea; it is, however, attended with danger unless great care be taken; but it is perfectly safe if the water purified be used for steam boilers or for distillation.

The process is as follows:—6 ozs. avoirdupois of caustic barytes are to be dissolved in an imperial gallon of the hard water. A precipitate of insoluble salts of carbonic and sulphuric acids will instantly ensue; a gallon of this barytic water will be sufficient for 30 imperial gallons of the deep well water in question, and will purify every gallon to the extent of at least 39·6 grains of the salts which are most detrimental to steam-boilers. July 19. W. BIRKMYRE.

SOLUBILITY OF THE OXIDE OF LEAD IN WATER.

SIR.—The facts which Mr. Horsley has stated in your last Number, regarding the great action of steam and of condensed steam, upon lead, confirm my previous statements on the same subject, which appeared in your Journal of the 23d of last December. The apparently unaccountable circumstances stated by Mr. Horsley are, I think, not difficult of explanation. The apparatus he used was, doubtless, cleaned previous to the operation. After the cleansing, the distilled water first collected, though "perfectly bright and clear," contained, notwithstanding—at least, I have no doubt—a considerable quantity of oxide of lead in solution. The "abundant white precipitate" of the second distillation, was most likely a consequence of the absorption of the carbonic acid of the atmosphere forming white lead, which, adhering but slightly to the inside of the lead pipe, became detached on re-distilling, producing a milkiness in the distilled water, which water, besides, held in solution oxide of lead; the same reason will account for the milkiness in the third distillation, and the presence of lead in solution.

It is now 14 years since I first witnessed and tested the results of the great action of steam and hot water upon lead, and though I should imagine it is not an uncommon occurrence, yet I do not remember to have seen anywhere a notice of it prior to my letter in your Journal. The circumstance related by Mr. Horsley, of the presence of oxide of lead in brandy, confirms the belief that many an individual is still poisoned by lead in spirit as well as water; but, I am bound to add, it is a consequence of gross carelessness in the distiller.—WILLIAM BIRKMYRE: July 18.

SOLUBILITY OF LEAD IN WATER.

SIR.—I read Mr. Horsley's remarks, in your Journal of the 14th inst., with some considerable degree of surprise, as it is most extraordinary he should have fitted up a still with a worm made of pure lead; for it is a well known fact to all who have paid any attention to chemical science for the last few years, that distilled water has a most marked action on lead. If a piece of clean lead be left for a few minutes only in contact with air and distilled water (at the ordinary temperature), or for a longer time completely immersed in distilled water, a considerable quantity of lead is taken into solution. A pewter pipe is the only kind (excepting glazed or glass tubes) that ought to be employed in connexion with distilled water. I have also very often noticed the presence of copper and lead in ardent spirits. The copper generally proceeds from the copper pipe of the worm, owing to the combined action of carbonic and acetic acids, which pass off from the wash with the distilling spirit. If lead be found in spirit, it may be pretty safely inferred that it has not been derived from any portion of the distillatory apparatus, but from salts of lead, which are used for fining such liquors.—JOHN MITCHELL: Hawley-road, July 16.

IMPROVEMENTS IN SMELTING COPPER.

SIR.—I read with much interest Mr. Mitchell's clear exposition of the principles of his invention for reducing the cost of smelting this metal, and conclude that all who are practically and chemically acquainted with the phenomena developed in the assaying of copper ores, must admit his process to be a decided step in advance of the present tedious and roundabout processes pursued at Swansea. The saving which can be effected in the poor ores of copper by his patent will, I have no doubt, amount to at least 5s. per ton of copper; but, unfortunately for the mine adventurers of Cornwall and Ireland, the question now, in consequence of delay, is not whether a reduction of 5s. can be effected in smelting, but whether the best selected copper can be produced in this country at 50s., instead of 82s. 10s., the present price.

If the miner had taken the initiative some years since, as he ought to have done, in adopting improvements in the smelting of his ores, he would not have stimulated, as he has, by his apathy, the Anglo-Saxons of South Australia and North America, to begin not only to work their copper mines, but to smelt their ores likewise. It will not do any good to taboo this matter; on the contrary, a great deal of harm, for assuredly as the recent startling announcement of the sale of 250,000 slabs of Banca tin, at Amsterdam and Rotterdam, on the 2d of next month, instead of the comparatively moderate quantity of 85,000 slabs for sale last year, we shall have at least as formidable competitors in the copper market within a very few months of this time; for to our discerning Brother Jonathan we are probably indebted for augmenting the sale of tin at these two towns from about 2600 tons, as it was on the 29th of last August, to the large quantity of about 7647 tons for sale at the same towns on the 2d of next month. We now know tolerably well the feats he has accomplished in about four or five months, in Upper California, in the way of gold digging, far exceeding, by his skill and his indomitable perseverance, all that ever was attained in the same space of time by the Spaniards or the Portuguese. No doubt we must, at the same time, allow a good deal for the extraordinary riches of the deposits—about the same, for instance, as for the rich copper ores of South Australia; still the effect of getting, within that brief space of time, \$7,000,000, or 1,487,500l. (of which 223,111l. has already found its way to one of the mints of the United States) cannot fail to be to turn his attention more than ever to metallurgical pursuits. But to return to the matter which more immediately interests us.

The copper works, for example, at Yatala, near Port Adelaide, South Australia, were expected in operation last February, and the larger works, at the Burra Burra Mine, are now, probably, in full operation. The enterprising spirit of the inhabitants brought private individuals to enter the list of copper smelters, and their exertions have been attended with success. The capital obtained—viz., 103,182l.—by the sale of the South Australian copper ore at Swansea, in the first six months of this year, will be a powerful incentive to further enterprise.

Notwithstanding the very low price of 50s. for a ton of copper, I firmly believe it can be produced profitably at that price in this country, and without reducing the price of the copper ores so low as they have been. But this will be considered impossible, quite as much so as when the late Mr. Stephenson, in the infancy of the railway system, stated that he anticipated that locomotives could go at the rate of 15 miles an hour. July 19. WILLIAM BIRKMYRE.

IMPROVEMENTS IN COPPER SMELTING.

SIR.—"J. R." seems to doubt that it is usual to pass air into a reverberatory furnace during the operation of copper smelting; he may, however, rest assured that it is a fact, and that all the copper works employ it. The use of the air is not, as "J. R." supposes, to effect a more perfect combustion of the products of the fuel; but to admit free and comparatively pure air (atmospheric air containing its normal quantity of oxygen, from not having passed through the fuel) to the matter in the furnace—so that the sulphur may be completely oxidised. This is the end and aim of the operation.—JOHN MITCHELL: Hawley-road, July 16.

IMPROVEMENTS IN COPPER SMELTING.

SIR.—In your last week's Number, a correspondent, "J. R.," accuses me of being one of those individuals who give no credit to others, but who are ever forward to deny a fair meed of praise where it is due. I by no means wish to detract from Mr. Low's invention, but I am not single in saying, that he does not state very plainly in what his improvements consist. Your correspondent, Mr. John Mitchell, who is interested in a patent for improvements in smelting copper, perceived the justice of my observation, and with great good nature immediately amended his specification, which was not so much required as in the case of Mr. Low's. Pure air has for a long period been introduced into the furnaces, not to effect a more perfect combustion of the products of the fuel, but to facilitate the oxidation of the sulphur and other impurities. It is used in nearly every work in Swansea, at the Elbe Copper-Works, in the Hartz in their reverberatory furnaces, and at Alten. Until a more perfect and plain description is pub-

lished of Mr. Low's patent, with all due deference to "J. R.," I shall remain of the same opinion that I expressed in my letter of the 2d July—that I conjecture it is nothing but a modification of the present systems. July 19. GERMANICUS.

QUERIES IN SMELTING.

SIR.—Having an extensive interest in silver-lead mines, will you permit me to solicit, through the medium of your columns, some well-informed person to favour us with the details, or at least the distinctive characters, of Hornblower's method of smelting? Perhaps Mr. Mitchell will impart the knowledge sought, and make a few observations, in his simple and happy style, on the general indications of treating argentiferous galenas, as well as the best modes of fulfilling these intentions in practice. Is Hornblower's method of smelting patented? and, if so, when, that I may see the specification. I trust I do not too much trespass in this presentation. Charing-cross, July 19. GUSTAV RADLINSKI, Compté et Chevalier.

P.S.—Perhaps some one of the candidates for the appointment of silver-lead smelter, advertised in your Journal, may deem it meet to instance his fitness and general knowledge, by furnishing the required information.

IMPROVEMENTS IN SMELTING COPPER—ABSTRACT OF SPECIFICATIONS.

SIR.—In Mr. Mitchell's letter, in the last Number of the Mining Journal, he states that the notice given of his specification, in No. 723, "is open to the same objection as Mr. Low's (see your correspondent, "Germanicus"); it does not at all explain the nature of the invention, and is, moreover, calculated to convey an erroneous idea of the process altogether." Now, as I have the honour of reporting patents from time to time in the Mining Journal, I think it will be conceded that I ought not to allow what amounts to an accusation of having mis-reported two specifications within a fortnight to go unrefuted; because, if this fact were established, the readers of your Journal would be apt to regard these reports as a waste of its valuable space. With regard to Low's specification, if Mr. Mitchell (and "Germanicus" also) will do me the favour to refer to the report in No. 723, they will find it there stated that Mr. Low has given no details or diagram illustrative of his invention, and upon reference to the specification itself, at the Patent Inrolment Office, Chancery-lane, they will find this statement correct; and further, that this specification is reported nearly verbatim, it being a very short one, so that however deficient it may be as an exemplification of the invention, the deficiency is not chargeable to the reporter at all.

As regards Mr. Mitchell's own case, although I cannot admit for a moment that his strong language of condemnation of the report is at all admissible (and the readers of the Mining Journal now have the full details before them, and can judge for themselves), I am yet willing to grant that the full details of the invention were not given; but full details are more than I can profess to give in the generality of cases, especially in such as that of Messrs. Mitchell, Alderson, and Warriner's, a specification which is full of divisions and subdivisions; for it must be borne in mind, that in order to supply the abstract of a specification, in the generality of cases, one has to peruse the document at a most inconvenient office, where we are not permitted to take the slightest note or comment. It cannot, therefore, be expected that full details of an invention can be reported in this way; if it were attempted, unless a very considerable portion of time were bestowed upon each invention (probably more than its merits would justify), the result would most likely be a miserable failure. In conclusion, I must protest against patentees being allowed to call the correctness of abstracts of their own specifications in question; because they are in full possession of the invention, whereas the reporter frequently knows nothing of it, except as set forth in the specification. F. W. CAMPBELL. 210, Strand, July 18.

SMOKE NUISANCE.

RESPECTED FRIEND.—I have been informed by a Mr. Chenery, formerly in the corn and seed trade, near Lambeth Palace, that he had made many successful experiments upon coal, with a view of abating, if not annihilating, opaque, or brown-black smoke, by mixing a certain portion of quicklime; and I think he stated, that the cost of preparing the coal to effect the object would not exceed 2s. or 3s. per ton. Query: Would not coal so prepared give out more caloric, and, therefore, compensate, or even more than compensate, for the extra expense? This I must leave to those acquainted with the chemical effect of the combination. T. MOTLEY. 21, Stangate, Lambeth, 7 mo. 20.

[We are not aware what effect the mixture of lime with coal would have as a preventive of smoke. Although we have stated that we did not think sufficient scientific discoveries had yet been made to justify the levying of fines if smoke is seen to issue from a chimney, we are fully aware of several plans which are highly effective. Among these is one at the Wire-Rope Works, Wapping, erected under the direction of Mr. Andrew Smith. Jukes's patent revolving fire-bars have also generally given satisfaction; but in all cases much depends on the mode of firing. Mr. Rawlinson, the Inspector of the General Board of Health, says—"One means to secure effective results, is to pay the engineer, or fireman, an extra sum per week for his extra trouble and care in firing (say, from 1s. to 2s. a week), to be paid quarterly or annually, as a bonus for attention; and then deduct all smoke fines from this sum. This has been done, to my knowledge, in several instances to the perfect satisfaction of all parties. A manufacturer may pay what sum he pleases for patent smoke consumers; but if he is not in earnest about the matter himself, and does not let his workmen understand this, there is no patent means of consuming smoke." In these remarks we entirely agree.]

THE NEW HYDRO-CARBON GAS.—Referring to the paragraph, in last week's Journal, descriptive of the mode of manufacture, and merits of this invention, by Dr. Kinloch, the patentee, Mr. Stephen White, writes:—"I am gratified to find Dr. Kinloch succeeds so well with his small apparatus, and is enabled to testify to such results; but on a larger scale, and on the improved arrangement now adopted, I have been enabled to render the apparatus far more efficient, and the expense of production per 1000 feet considerably less. From 25 lbs. resin, costing (at present) 7d., and charcoal costing 1d., and fuel in Manchester about 2d., and 13 lbs. water, costing 1d., I easily produce 1000 feet of the most splendid gas, free from every impurity, and having a far higher illuminating power than any coal gas ever seen, and from which smoke, under any circumstances, cannot be drawn. It can, therefore, solve nothing."

LIABILITIES OF SHAREHOLDERS, AFTER RECEIVING A FINAL DIVIDEND, AND GIVING UP SCRIP, TO FURTHER CLAIMS ON THE COMPANY.—In the Vice-Chancellor's Court, on Wednesday, in the matter of the Joint-Stock Companies' Winding-up Act (1848) and the Grand Trunk or Stafford and Peterborough Union Railway Company, a motion was made, that the name of Mr. William Apps, which Master Brougham had inserted in the list of contributors under the above Act, might be struck out, under these circumstances:—In the year 1845, this company was formed with projected capital of 1,000,000l., consisting of 50,000 shares, of 20l. each, with a deposit of two guineas on each share. Mr. Apps applied for and had 50 shares allotted to him, and paid the deposit thereon, and signed the subscribers' agreement. The project turned out a failure, and on the 20th April, 1846, by a requisition of the shareholders, a general meeting took place on the 14th May, when a resolution was passed to the effect, that the directors should proceed to dissolve the company; in consequence of which, they called in all the scrip, for the purpose of its being cancelled, making a return of one guinea per share to the scrip-holders, and a further return of 2s. 6d. subsequently. A general release was then prepared and signed by Apps and a great proportion of the shareholders, who also delivered up their scrip and received the 1l. 2s. 6d. on each share, and the directors then presented a petition to wind up the affairs of the company under the Joint-Stock Act, and the matter was brought before Master Brougham in the ordinary course, who found that Mr. Apps, with many others who had signed the release, delivered up their scrip, and received back the 1l. 2s. 6d. on each share, were liable to contribute towards the expenses incident to the winding up of the concern under the Act, as contributories. The present motion was made, therefore, in the nature of an exception to that decision.—Mr. ROZE and Mr. MAULE appeared in support of the motion, and argued that Mr. Apps was liable only on the subscribers' agreement, which could only be binding when the whole capital was subscribed for—an event that had not taken place. Before the winding-up of the company took place, Mr. Apps had, in fact, ceased to be a member of it; and he could not be called upon to contribute to what had taken place after the actual dissolution of the company, and the release had been signed by him (ex parte Morgan, *Surint*, June the 20th).—Mr. BETHELL and Mr. MALIN appeared in opposition to the motion, without hearing from the VICE-CHANCELLOR observed that, upon referring to the Act, his opinion was, that Mr. Apps was, in effect, a member of the company, and a contributory within the meaning of the statute. Associated, as he doubtless was, with those who were carrying on the scheme as provisional directors, there was here a clear distinction from the case cited. It was plain that there might be a release from him to them, in consideration of the sum repaid, without their undertaking to release him from the sum unpaid. The directors, indeed, had referred to certain claims, for which there was a responsibility; and, although there might not be any agreement, Mr. Apps must be considered as a contributory within the meaning of the Act.

COALS IMPORTED INTO IRELAND.—A return, moved for by Colonel Dunne, M.P., shows that 969,558 tons of coals, cinders, and culm were imported into Ireland in the year 1847, against 1,271,433 tons in the year 1846.

AN ASTOUNDING CURE OF THIRTY-FIVE WOUNDS BY HOLLOWAY'S OINTMENT AND PILLS.—Extract of a letter from Mr. Jeremiah Beek, of Molong, near Sydney, dated 25th September, 1848.—"I owe a debt of gratitude to you for my almost miraculous cure by the use of your ointment and pills after seven years intense suffering, caused by exposure to wet and cold. When I commenced using your remedies I had already expended upwards of 300l. in other medicine and advice without any benefit, and had 25 ulcers on my body, a dreadful headach and pains all over me, but your ointment and pills have cured me, and I am now enjoying excellent health."—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

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TO ENGINEERS, BUILDERS, AND ARCHITECTS.

JAMES BOYDELL, 54, THREEDNEEDLE-STREET, having been a very large manufacturer of machinery and irregular shaped iron, and having accomplished the rolling of some descriptions of the latter, thought by many to have been impracticable, will be happy to ASSIST any ENGINEERS, SHIPBUILDERS, and ARCHITECTS, in the planning of the details of what IRONWORK they may have occasion for, or bringing to perfection any invention in machinery, as well as procuring such materials for the purpose as they may require.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY.

23, HAWLEY-ROAD, KENTISH TOWN, LONDON.

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

WARRANTED SAFETY FUSE.—W. BRUNTON & CO. beg to inform Mine Agents, Contractors, and Merchants, that having completed their machinery for the MANUFACTURE of the ABOVE ARTICLE, they are enabled to offer FUSE of a very superior quality, and at considerably reduced prices.

W. B. & Co. can SUPPLY FUSE in ANY LENGTHS that may be required.

Penhellick Fuse Factory, Pool, Truro, Cornwall.

TESTIMONIALS.

We, the undersigned, hereby bear our testimony to the excellence of the Safety Fuse, manufactured by Messrs. Brunton and Co. We have had it in use in our mines; and, after sufficient trial, find it to be fully equal to any Fuse we have ever used:—

Cars Brea Mine. R. H. Pike, Farmer.

Cook's Kitchen Agents. John Ivey, William Hutchins.

North Roakear Agents. Joseph Vivian, William Michell, William Thomas.

Tincroft Agents. Peter Floyd, Thomas Stainby, Thomas Lean, Henry Hocken, Richard Martin.

William Nancarrow. Joseph Vivian, Richard Bennetts.

WILLIAM BRUNTON, SEN., C.E., desires to call the attention of COALMASTERS generally, and their AGENTS, to his METHOD of RAREFACTION FOR THE VENTILATION OF COLLIERIES.

It is effected by a machine of the most simple and integral character; has no valves or separate moving parts; has no attrition; and all the friction is resolved into a foot pivot, moving in oil. When at rest, offers no impediment to the air ascending from the pit; is liable to no derangement, and very inexpensive. By this apparatus, which is driven by a steam-engine, or water-wheel, any degree of rarefaction necessary to ventilation is rendered certain, regular, under visible inspection, and perfect control, so that the current of air through a colliery may be greatly increased during the night, or any time the pit is not at work, and thereby prevent that stagnant and dangerous state of the air now so prevalent during suspension of work.

This machine also possesses the power whereby the atmosphere of a colliery can, in a quarter of an hour, be subjected to an exhaustion equal to half an inch of mercury; thereby powerfully drawing out the gas from the coal, and from the waste and goaf ponds, during the absence of fire or light, and consequently of danger from explosion; and also the power of restoring the equilibrium, and clearing the colliery of fire-damp, before the men enter, by a more vigorous and energetic current of fresh air than has hitherto been attainable by the ordinary means of ventilation; and, by the repetition of this process any night the atmosphere of the colliery during the day would be in the same condition, as to efflux of gas, as if the barometer were rising, when it is well known and attested that the fumes of the colliery absorb rather than discharge gas.

One of these machines has been erected at Gelly Gaer Colliery, belonging to Thomas Powell, Esq., of the Gaer, near Newport, who, anxiously solicitous to diminish, by all practical means, the risk of human life in our collieries, has kindly permitted Mr. Brunton to invite gentlemen to inspect the machine and its capability.

W. Brunton may be professionally consulted as to the above, or any other subject of Mechanical Engineering, wherein he has had long and extensive experience.

Address W. Brunton, Newport, Monmouthshire.

STRUVE'S PATENT MINE VENTILATOR.

TO COLLIER PROPRIETORS.

Quantity of air passed through a Mine almost unlimited, to the extent of 300,000 cubic feet per minute, if necessary—depending on size of apparatus.

No injury to pumps, tubbing, chains, ropes, or pitwork.

Goaves kept clear.

Not influenced by barometrical and thermometrical changes in the atmosphere, or by wind.

Current of air underdriving.

LICENSES will be GRANTED on application to Mr. WILLIAM PRICE STRUVE, C.E., Swansea.

The ventilator has been erected at the Eaglesbush Colliery, near Neath, and is perfectly efficient, and may be viewed on application to the proprietors, Messrs. Penrose and Evans, Neath.

WIRE ROPE.—The Undersigned beg to inform the public, that they have become SOLE LICENSEES of Mr. ANDREW SMITH, for the MANUFACTURE and SALE of his PATENT WIRE ROPE; and having fitted their premises with his very superior improved machinery, have only to assure those who may favour them with their orders, that the same care and attention shall always be bestowed which they have reason to believe, has secured them such general support.

LIGHTNING CONDUCTORS, SIGNAL CORD, and SASH LINE, always in stock.

WILKINS & WEATHERLY.

Patent Wire Rope Works, No. 30, High-street, Wapping, London.

TO ENGINEERS AND BOILER MAKERS.—The BIRMINGHAM PATENT IRON TUBE COMPANY.

MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam, and other purposes. All sorts of IRON GAS FITTINGS.

WORKS—Smethwick, near Birmingham.

LONDON WAREHOUSE—No. 6, Upper Thames-street.

THE PATENT OFFICE AND DESIGNS REGISTRY, No. 310, STRAND, LONDON.

INVENTORS will receive (gratis) on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

LOANS ON DEBENTURES.—The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS, in sum not less than £500.—Applications to be made or addressed to this office.

125, George-street, Edinburgh, May 30, 1849.

RIDER'S RAILWAY BRIDGE.

—This BRIDGE, BUILT wholly of IRON, will be ERECTED by the PATENTEE on the following terms:—

A BRIDGE, of 150 span, for a double track railway, broad gauge—Price £3000.

A BRIDGE, of 100 feet span, same dimensions—Price £1000.

These prices are exclusive of abutments or piers.

ROADWAY BRIDGES at a reduction on cost of from one-half to two-thirds.

Apply to Mr. S. MOULTON, Patentee, Bradford, Wilts, or to Mr. Howard Jacobson, Suffolk-lane, Thames-street, London.

CWMBRAIN PATENT IRON REFINERY.—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS.

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scraps, and refuse of some particular blast-furnaces, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—

1. For BOILER and TANK-PLATES.

2. For TIN-PLATES, commonly called COKE-PLATES.

3. For STRONG CABLE BOLTS, RIVETS, and ANGLE IRON.

4. This COMPOUND PUDDLED, best under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for PLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-roads, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "E. J. B." and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

PATENT TOUGHENED CAST-IRON.—Messrs. GARDEN and MACANDREW beg to call the attention of Architects, Builders, Engineers, Ironfounders, &c., to the ABOVE DESCRIPTION of IRON (Mr. Morris Stirling's Patent), which, after numerous trials, experimental and practical, is found greatly to exceed all other cast-iron in tensile and transverse strength, as well as in resistance to crushing forces. Several of the most extensive ironmasters have been licensed, and from them, or their brokers, the patent iron can be procured.

Messrs. GARDEN & MACANDREW have always a STOCK of this IRON in PIGS, and are ready to EXECUTE ORDEES in ANY EXTENT, on the shortest notice.

27, Queen-street, Cheapside, April 26, 1849.

INDURATED AND IMPERVIOUS STONE, CHALK, &c.

—AGENTS, with capital, are WANTED in ALL TOWNS to SUPPLY (under British and Foreign Patents) the great demand for HUTCHISONISED MATERIALS—hard as granite, impervious to moisture, vermin, &c.: the cheapest and most durable for all buildings, hydraulic, paving, monumental and decorative work.—The profits are large.

Apply to HUTCHISON & CO., East Temple Chambers, London, or Tunbridge Wells, Kent, stating name, address, and capital at command.

N.B.—Houses cured of damp. The produce of soft stone quarries, chalk, plaster of Paris, wood, pasteboard, and all absorbent materials indurated to resist frost, vermin, &c. LICENSES GRANTED.

EMERSON'S PATENT LIQUID CEMENT is ready for use, is simple in its application, and only ONE-EIGHTH the COST of OIL PAINT; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT STONE; can be used at once on fresh Roman cement or other plastering; is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be beautified in any weather, at a trifling cost. Sold in casks, of 1, 2, and 3 cwt., at 8s., 15s., and 21s. each.

Patent Mineral Paint.

Invaluable as a COATING for SHIPS' SIDES and BOTTOMS, all kinds of WOOD or METAL WORK, roofing felts, leaky roofs, spouts and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay—requires no preparation, and will dry in a few hours.—Sold in casks, 2 to 50 gallons. Brilliant shades, 2s.; rich brown, 2s. 6d. per cwt.

BELL, LEAR, & CO., 16, Basing-lane, Cheapside.

Just published, in 8vo., price 1s. 6d., or free post, 2s.

GAS-LIGHTING: ITS PROGRESS AND ITS PROSPECTS, with REMARKS on the RATING of GAS-MAINS, and a NOTE on the ELECTRIC LIGHT.

By J. O. N. RUTTER, F.R.S.

"The literary merits of this pamphlet are considerable. Mr. Rutter's competency to enlighten the public on the subject is well known."—*Daily News*.

John W. Parker, West Strand, London, and all booksellers.

VINTNERS' COMPANY.—EXTRACTS OF CHARTERS, ROYAL LETTERS PATENT, ORDINANCES, and BYE-LAWS, from the Earliest Period: its Privileges, Abuses thereof, and Proposed Remedies.

By JAMES INNES, Esq.

Of the Queen's Arms Hotel, Cheapside, a Freeman and Liveryman of the said Company.

Price 2s. 6d.

London: Samuel Bagster and Sons, 15, Paternoster-row.

TO ENGINEERS, ARCHITECTS, BUILDERS, AND DECORATORS.

STEPHENS' DYES FOR STAINING WOOD, as a SUBSTITUTE FOR PAINT.—For Decorating Churches, large Public Rooms and Theatres, as well as Private Dwellings. When economy in expenditure of material and time is of importance, these dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and at the same time avoid the disagreeable smell and deleterious consequences of paint.

The DYES, or STAINS, are prepared and sold by HENRY STEPHENS, 54, STAMFORD-STREET, BLACKFRIARS-ROAD, LONDON, in bottles of 6d. and 1s. each, and at 8s. per gallon. The Oak Colour may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make 1 gallon of stain.

N.B.—The trade supplied.—Where also may be had the proper varnish and size, with directions for their use.—Also,

STEPHENS' WRITING FLUIDS comprise the most beautiful and durable colours, and the most indelible compositions which art can produce: they consist of—

A Blue Fluid, changing into an intense black colour.

Patent Unchangeable Blue Fluids, remaining a deep blue colour.—Two sorts are prepared, a Light and a Dark Blue.

A superior Black Ink, of the common character, but more fluid.

A superior Carmine Red, for contrast writing.

A Liquid Rouge Carmine for articles and contrast writing, in glass bottles.

A Carbonaceous Record Ink, which writes instantly black, and being proof against any chemical agent, is most valuable in the prevention of frauds.

A Liquid, Mechanical, and Architectural Drawing Ink, superior to Indian Ink.

Marking Inks for Linen—select Steel Pens—Inkholders.

Prepared by HENRY STEPHENS, the Inventor, No. 54, Stamford-street, Blackfriars-road, London; and sold by stationers and booksellers, in bottles, at 1d., 2d., 3d., 6d., 1s., and 8s. each.

CAUTION.—The Unchangeable Blue Fluids are Patent articles; the public are, therefore, cautioned against imitations, which are infringing, to sell or use which is illegal.

HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London.

DAMP AND GASEOUS EXHALATIONS.

SANITARY MEASURES.

ALL MEMBERS of BOARDS of HEALTH are especially DIRECTED to the most EFFECTIVE MEANS which they can ADOPT to PREVENT the injurious and often FATAL EFFECTS upon the HEALTH of the COMMUNITY, arising from exhalations that are produced from moisture, decayed animal matter (as in grave-yards), stagnant water, and collections of fetid refuse, tending to produce a miasmatic state of atmosphere. In situations so effected, the impervious quality of the ASPHALT of SEYSSSEL renders it the most perfect PAVEMENT or COVERING that can be relied upon for hermetically closing, and thereby preventing the rising of moisture and escape of noxious vapours. The present extensive application of this material for covering roofs, terraces, and arches, for preventing the percolation of wet, is strong evidence of its effectiveness for the above purposes, which is further confirmed by the following extract from the Report of the Commissioners on the Fine Arts.

"In 1839, I superintended the construction of a house of three stories on the Île d'Engelien. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered at the level of the internal ground floor with a layer of SEYSSSEL ASPHALT, less than half an inch thick, over which coarse sand was spread. Since the above date, no trace of damp has shown itself round the walls of the lower story, which are for the most part painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ in. above the external surface of the soil, and only 19½ in. at the utmost, above that of the sheet of water. The layer of Asphalt having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been seen remarked at the base of the door-posts."

* This method has been adopted at the new Houses of Parliament.

Seyssel Asphalt Company, Stangate, London. I. FARRELL, Secretary.

NOTICE.—WENHAM LAKE ICE SUPERSEDED! (BY ROYAL LETTERS PATENT.)

MASTERS AND CO.'S PATENT SHERRY COBBLER FREEZING AND COOLING JUG.

By this Patent Jug, spring water is congealed into the purest ice, on the table of side-board, for Sherry Cobblers, &c., in FIVE MINUTES, at the cost of Twopence. The public are respectfully invited to see the process of this extraordinary and useful invention, as actually BOILING WATER CAN BE CONVERTED INTO ICE, without the aid of ice!

Patentees of the Freezing Machines (by which 50 to 100 quarts of Desert Ice can be made in a few minutes, and Rock Ice at the same time, and Wine cooled), Cooling Decanters, Refrigerators, Butter Coolers, and Percolators. By this last-mentioned article a bottle of wine, &c., can be cooled in a minute without ice, for one halfpenny.

MASTERS & CO.'S IMPROVED APPARATUS FOR MAKING PURE SODA WATER, LEMONADE, NECTAR, and all ERATED WATERS.—This apparatus needs only to be seen to be appreciated. Price 30s.—MASTERS & CO., PATENTERS, 294, REGENT-STREET, AND 7, MANSION-HOUSE-STREET, CITY.—Also,

BY ARTICLES AND PATENT.

MASTERS & CO.'S PATENT ROTARY BUFF KNIFE CLEANERS, which will clean and polish, equal to new, twelve knives in one minute, without noise or dust.

The various processes shown at Masters and Co.'s Show Rooms, 294, Regent-street, and 7, Mansion-house-street, City, and may also be seen at the Royal Botanic, Zoological, and Coliseum, Regent's-park, and the Polytechnic Institution, Regent-street.

294, REGENT-STREET, AND 7, MANSION-HOUSE-STREET, CITY.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.—E. J. DENT, 23, Strand, and 23, Cockspur-street, watch and clock maker, BY APPOINTMENT to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1840, 1842, 1843. Silver lever watches, jewelled in four holes, 6s. each; in gold cases, 8s. 4s. to £10 extra. Gold horizontal watches, with gold dials, from 8s. to 12s. each. DENT'S PATENT DIPLOMOSCOPE, or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

PATENT RAILWAY AND OTHER CARRIAGE AXLES, MANUFACTURED BY THE PATENT SHAFT AND AXLE-TREE COMPANY, BRUNSWICK IRON-WORKS, WEDNESBURY, STAFFORDSHIRE.

The Judicial Committee of the Privy Council having declared that the AXLES MADE BY THE PATENT SHAFT AND AXLE-TREE COMPANY had procured a PUBLIC BENEFIT in greatly conducting to the SAFETY of RAILWAY TRAVELLING, the exclusive right to manufacture has been extended for four years, on condition that the practice of charging a moderate price, proved hitherto to have been pursued, should be made imperative.

It was also proved that these Axles were in general use upwards of 100,000 having been supplied to the English and Continental Railways, among whom are the London and North-Western, the Midland, and the Great Western; that they had withstood frequently severe tests applied by the engineers of these railways for the purpose of experiment, and others still more severe to which they were accidentally subjected in use. In one such instance a Patent Axle, 4½ inches in diameter, sustained the whole force of a heavy train going at the rate of 60 miles an hour, by which it was twisted and bent nearly double, without showing the least fracture.

The patent principle of manufacture causes the axles to be equally strong in all directions, for the "fagot" is made in a cylindrical form, by the external bars being rolled of such a section as to fit accurately around a centre bar. This fagot, however large, is perfectly welded throughout its whole length at one heat, avoiding the necessity of the frequent heating and hammering of the ordinary mode, by which much risk is run of imperfectly welding, burning, and otherwise injuring the iron.

The use of this principle, combined with experience gained of the quality and admixture of the iron and mode of treatment best adapted to resist the strain to which an axle is subjected, enables the Patent Shaft Company uniformly to supply safe axles.

In all cases where the use of the Patent Shaft Company's Axles are specified for, it is respectfully recommended that information be sent to the works; for, although every Patent Axle is stamped with the company's name, worthless axles, made at an expense little beyond that of common bar-iron, have, in many instances, been substituted.

It was given in evidence before the Privy Council, by Robert Stephenson, Esq., M.P., that having, in consequence of an accident, tested a number of such common axles, he found 48 out of 50 broke so easily as to be perfectly unfit for use; that he ordered them to be removed, and that he has since recommended the Patent Axles to be used exclusively.

The trial of the Patent Shaft Company's Iron is solicited in cases where the power to resist a great strain is of importance. Evidence can be afforded from several railway engineers, of great economy having resulted from its use in preventing the breakage to which their coupling chains were frequently previously subjected, particularly on the Midland Railway, where the heavy mineral traffic subjects these chains to unusual strains. Iron manufactured on the patent principle is also recommended for coach and carriage axles, for, if not afterwards injured by the coachman, all risk of breakage will be avoided.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

JOHN BROWN'S CONICAL BUFFER, BEARING, AND DRAW SPRINGS.

The Patentee invites the attention of Railway Authorities, Carriage Builders, &c., to this simple, efficient, and economical BUFFER SPRING—the main object of which is to prevent the great loss accruing to companies, &c., from the excessive damage to their waggons, vans, &c., owing to the severe checks and sudden concussions to which they are subjected.

Specimens may be seen, and further information obtained of the PATENTEE, ATLAS STEEL WORKS, SHEFFIELD, or of his AGENTS, as under:—

LONDON: Mr. J. Freeman, 10, Artillery-place, Finsbury.

GLASGOW: Mr. A. Tolmie, 166, Buchanan-street.

BIRMINGHAM: Mr. G. Telford, No. 84, Great Charles-street.













